THE BUILDER

INCORPORATING

"ARCHITECTURE" and "THE BRITISH ARCHITECT"

VOL. CLXXVII AUGUST 12, 1949 No. 5556

THIS WEEK'S NEWS

PAGE

AN EXTENSION to existing works at Alexandra Docks of South Wales Board Mills, Ltd., incorporating the use of prestressed concrete columns cast in separate sections and prestressed on site, is described and illustrated. This is probably the first use of this type of construction in this country. 192

TEMPORARY BUILDINGS for the Festival of Britain on the South Bank will include a small restaurant and a "vertical feature." The design of each of these structures is to be the subject of an architectural competition. 196

A HOUSING SCHEME designed by Mr. Graham Dawbarn, C.B.E., M.A., F.R.I.B.A. (Norman and Dawbarn), for the St. Pancras Borough Council and providing 126 flats of various sizes is described and illustrated. 197

THE FIFTH ARTICLE in the series "Organisation of Building Firms" describes in detail the administrative structure of a Midlands firm employing personnel numbering 1,000. 207

A QUESTION submitted by a reader concerning the copyright of the design for a house is answered in our Inquiry Bureau by a legal correspondent. 210

THE MINISTRY OF WORKS

THE publication of the Summary Report of the Ministry of Works for the year 1948 gives an opportunity to review the activities of what is now an important Government Department. A glance at the contents page of the report shows how many and varied are the activities of this Ministry, ranging as they do from the licensing of building to the responsibility for public statues. All these activities, however, fall into well-defined groups representing the dual nature and origin of the Ministry. First, there are those functions which result from the Ministry's responsibility for the affairs of the building industry and, second, there are those which were taken over from the old Office of Works. Although there is much of interest in the latter group, the former group of functions is by far the more important and for reasons of space it will be necessary to concentrate entirely on these.

Perhaps the first point of interest is the fact that the Ministry of Works is by no means the only controlling body for the national building programme. Obviously, other Departments—such as the Ministry of Health for housing and hospitals, and the Ministry of Education for schools—must have a say in both the formulation and administration of the national building programme, but somewhere there must be machinery of co-ordination and control. Unfortunately, the Ministry's report does not make it clear what form this machinery takes. In the summary report for 1945–46 it was stated:

"In August, 1946, the machinery for the control of the national building programme was reviewed and an Inter-Departmental Committee was established known as the 'Headquarters Building Committee.' The Committee was charged with the responsibility of reconciling the various demands upon the available resources of the building and civil engineering industries and for arranging for those resources to be allocated in accordance with general Government policy. The Committee worked under the close direction of Ministers to whom points of disagreement or of special importance were referred. It also supervised the work of the Regional Building Committees. . . . The Committee became, in fact, the central body in the planning of resources of building and civil engineering labour and building materials."

This is a fairly clear statement, but it certainly does not apply to-day, for the 1948 report states:

"Until the end of October, the Inter-Departmental Committee known as the 'Headquarters Building Committee' was centrally responsible for selecting *industrial* (the italics are ours.—ED.) building projects which should proceed because of their importance to the export trade or the saving in imports which they could bring about. From November 1, each Government Department became responsible for the selection, on the same general principles, of projects which should go ahead."

This latter quotation raises a number of important questions. When did the Headquarters Building Committee cease to be responsible for non-industrial building projects and to whom was that responsibility transferred? Does the Headquarters Building Committee in fact still exist? What is the position in regard to all this of the Central Planning Committee which was set up in 1947 to deal with the economic crisis?

These are no mere academic questions. The public is entitled to the assurance that there is some effective body planning the national building programme, and that control of that programme is not just a tug-of-war between a number of Departments subject to such control as the Cabinet can find the time to exercise, if indeed it has the ability.

These questions are important for another reason also—namely, that the building industries ought to be consulted in the formulation of the national building programme. Although final decisions must obviously rest with the Government, the wisdom and experience of the building industries could be invaluable in an advisory capacity. But, in view of the apparently divided responsibilities of the Government Departments, there is no clear point at which the building industries can help. True, there is the National Consultative Council set up by the Minister of Works, but, as we have seen, the Ministry of Works no longer seems to be the controlling body. Moreover, the summary report for 1948 contains this revealing paragraph:—

"The National Consultative Council of the Building and Civil Engineering Industries held four meetings during the year at which the Minister presided. Amongst other matters, the Council considered the White Paper on Capital Investment in 1948 (Cmd. 7268), the supply and distribution of materials and the use of manual labour for the clearance of derelict land in the Development Areas. Early in 1948 the Council met in Committee and reviewed the possible effect on the industries of the cuts in capital investment."

As the White Paper referred to was issued in 1947, it looks as though the cuts in capital investment had been definitely settled long before the National Consultative Council was given the opportunity to consider the subject. Nor is it very encouraging to find that what ought to be a key committee met only four times in the course of a year (or five if one includes the "meeting in committee," i.e., without the Minister present). No one would advocate committee meetings for their own sake, but four (or possibly

five) seems hardly enough for so important a body as the National Consultative Council.

By contrast, there appears to be far more effective machinery of consultation between the Ministry and the building materials industries. In addition to consultation with particular industries on questions which arose from time to time, there were regular monthly meetings with the National Council of Building Materials Producers. The building industry proper—the professions and the contractors—might well consider the advantages of a similarly integrated approach to their consultations with the Ministry, instead of relying upon the National Consultative Council, which is essentially a creation of the Minister. Unfortunately, the building industry seems to be going in the reverse direction to that followed by the materials producers, as witness the further disintegration of that once promising body the Building Industries National Council. A shrewd observer once commented that the trouble about B.I.N.C. was that there was no one Minister or Department with whom it could deal and that only the Cabinet would be big enough. But it may well be that that was really a criticism of the machinery of Government rather than of B.I.N.C. While obviously the Cabinet cannot be brought into the day-to-day affairs of the industry, there is need for some more centralised control than appears to be exercised by the Ministry of Works. Certainly, the industry and public would gain if there were some more effective body representing the industry.

THE CONTROL OF ELEVATIONS

AT the time of the passing of the Town and Country Planning Act, 1947, we called attention in a leading article to some of the difficulties likely to be met by the authorities in exercising their powers of control over the appearance of buildings under the Act. The recent formation by the Kent County Council of a panel of architects to advise the sub-committees of the Planning Committee on questions of architectural design provides some confirmation of the views we then expressed. The panel is to operate in the first place for an experimental period of one year, and is to consist of 12 architects who are practising in various parts of Kent. It is proposed to refer to this panel only such designs for buildings as, in the opinion of the members concerned, are open to objection and as are of special interest or importance and involve questions of architectural design upon which wide professional views would be likely to assist in reaching proper decisions. The panel has been selected by the President of the R.I.B.A. in consultation with the South-Eastern Society of Architects. The County Planning Officer will retain on his staff fully qualified architects to advise on all architectural aspects of his Department. It will thus be seen that there may be a double check on proposed works of architecture submitted to this authority.

The step which has been taken by the Kent County Council is no doubt a wise one, though it is not likely to be popular with those who still hold that architecture can best flourish under conditions of complete freedom. Experience in modern times, however, has shown this belief to be fallacious. Unhappily, freedom has permitted the creation not only of much beauty but of still more ugliness. A generation ago it was hoped that Registration and the organised development of architectural education would make any form of official control of architecture unnecessary; in due course that Utopian condition of affairs may possibly come about, but the time is certainly not yet. It is still possible to build without the services of an architect, and unhappily there are still architects who, whatever their abilities in other directions, are not conspicuously artists, though one hopes these will tend to become fewer with the lapse of time. It would be unwise to regard controls as a sort of magic solvent of all our problems of elevational design, but properly administered they can at least prevent the sort of architectural ineptitude from which we have suffered so much in the past and ensure a reasonable measure of order and seemliness in the surroundings.

Advisory panels composed of competent and broad-minded architects can obviously be of great help to the authorities in reaching wise decisions on designs submitted to them. We stress the words "broad-minded," for there is still, unfortunately, a gulf fixed between the traditionalists and the modernists in the profession itself. It will be recalled that the advisory panels which functioned in the years between the wars under earlier legislation were by no means an unqualified success. Their decisions were frequently contested, particularly by architects of the advanced school. It was not uncommon where reactionary views prevailed for progressive design to receive short shrift while possibly trite traditionalism was approved as a matter of course. The danger of a recurrence of mere unreasoning prejudice against progressive design has no doubt diminished, but it may still need to be guarded against.

The very existence of this machinery of control is regarded by many as an affront to the architectural profession, as in a sense it is. What other professions are subjected to such supervision? No one thinks of questioning the authority of the doctor, the oculist or the lawyer, for example. Why should the architect not be treated with similar respect? The answer, of course, is that architecture, in addition to its practical implications, is a visual art closely affecting the public, and therefore subject to wide differences of taste. It is for precisely this reason that advisory panels should consist of men of wide culture with the freedom from mere vulgar prejudice that culture generally brings. If this rule in selecting members of panels is observed, as it clearly has been in the case of the Kent panel, whose names have been published, there should be little cause for dissatisfaction with their decisions.

The Kent experiment, which is likely to be imitated by other authorities, will be watched with interest by public and architects alike. Time, the improvement of taste and the development of a recognisable contemporary architecture will no doubt tend to make the official control of elevations unnecessary. In the meantime, the more efficiently, harmoniously and fairly a system of control can be made to work the better for all concerned.

THE "BACKGROUND TO DESIGN" EXHIBITION. A prototype easy chair designed by Dennis Lennon, M.C., A.R.I.B.A., Director, Rayon Industry Design Centre. *(See Note.)*

NOTES AND NEWS

London's Rooftops.

THE laws of light and the limitations of the human eye being what they are, it is not surprising that we know little of the purposes for which the roofs of London's buildings are used, other than the obvious one of keeping out the wind and rain. But there is much to interest the architect as well as the layman amid the "idle acres" of London's rooftops and chimneys, as Mr. Richard Dimbleby showed us in his "London Town" television programme on Friday last. Far from being the haunts of vagrant cats and the odd sparrow and pigeon, many roofs in the capital are used for a variety of purposes in an atmosphere far more refreshing than that of the petrol-laden air of the streets far below.

One city business house has laid out the roof of its premises as a formal garden, with lawn, shady trees and a running brook to provide a peaceful, pleasant spot to be enjoyed by employees during their lunch-hour.

Not far away, on another rooftop, young Comptons of the future engage in strenuous nets practice, while in Mayfair, as one would suspect, there is an enchanting roof restaurant in a setting infinitely more attractive than its more urban competitors at street level.

In Soho, of all places, a roof is occupied by the greenhouses of a gentleman whose hobby is to cultivate various species of cacti—ideal plants to grow under such conditions, it may be said, for the amount of water required to be conveyed to roof level is of the very minimum.

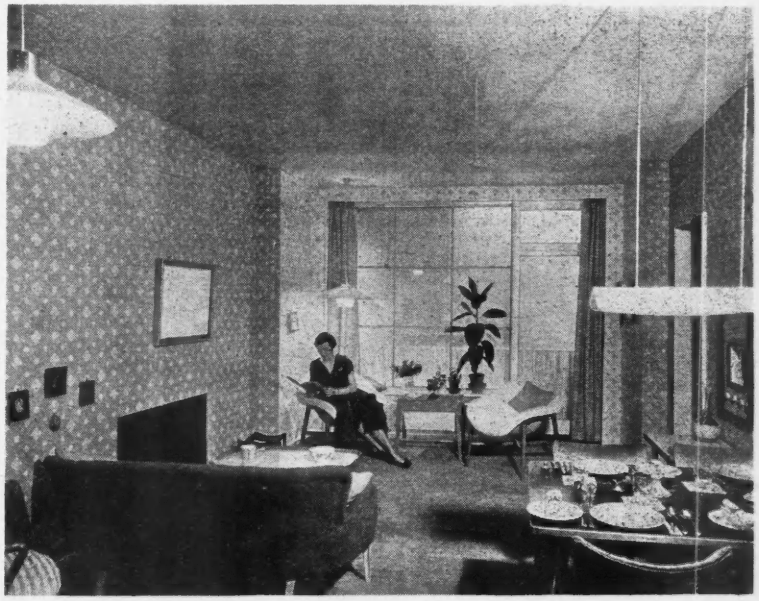
The rooftops of cities throughout the world are mostly a dull and dreary prospect even under the best conditions, and Mr. Dimbleby's excellent little tour would suggest to many the possibilities in this direction that present themselves in the rebuilding of the City. Roof space can be just as valuable as ground area, if it is used to the best advantage.

Design in Rayon.

ARCHITECTS should make a point of visiting the "Background to Design" Exhibition at the Rayon Industry Design Centre, No. 1, Grosvenor-street, for here is a show at once vital and interesting to all connected with the art of design. The Centre was opened fairly recently to promote the uses and application of rayon, and this exhibition covers the period from 1780 to the present day. It illustrates the characteristics of these years in relation to design, and the whole presentation is most attractively mounted, the 1928 cloche hats in cellophane assuming almost a "Dali-esque" significance.

On the ground floor are two furnished rooms, one in the eighteenth-century style and the other of contemporary design. Here is an excellent idea; the wide opening between the two rooms admirably facilitates the comparison of the individualism of the 1700s with the studied simplicity of the 1940s. The design of the contemporary room, however, is so commendably impersonal that one feels that any *objet d'art* could be taken from the older room, placed in it and yet look thoroughly at home.

Here, possibly, is a worthwhile purpose for good modern decorative style (a thing that appears to be causing some concern amongst contemporary theorists on the grounds that nothing definite has so far emerged from the chryalis of the 'twenties), for it could do worse than provide a background for the craftsmanship of the past and present.



THE "BACKGROUND TO DESIGN" EXHIBITION. A living and dining room of a modern flat in which all furnishings are in British rayon. (*See Note.*)

Architects and students are always welcomed at the Rayon Design Centre, the library is worth a visit in itself, and no one interested in the development of modern decoration can afford to ignore the possibilities of this material.

London to Brighton.

THE news that Mr. F. E. Green is leaving his post as assistant headmaster of the Northern Polytechnic School of Architecture to take up the headmastership of the School of Architecture at Brighton, will be received with much regret by past and present students and friends of the London school.

In the exacting and responsible task of teaching architecture, Mr. Green holds a particular niche of his own, combining wide scholarship with a finely balanced judgment of contemporary trends and innovations. Although London's loss is Brighton's gain, the two centres are not so far apart and all connected with the "Northern" will hope that Mr. Green will be able to find the time occasionally to revisit the school.

R.I.B.A. Telephone Number.

AS AND FROM 1 p.m. on Saturday, August 13, 1949, the R.I.B.A. telephone numbers will be Langham 5721-7 (instead of Welbeck 5721-7).

Deputy City Architect, Coventry.

APPLICATIONS are invited in our "Public Appointments" column for the post of Deputy City Architect, Coventry. The salary offered is £1,005 rising in three years to £1,200. Forms of application are obtainable from the Town Clerk, Council House, Coventry.

A Public Garden in the City.

A SMALL triangular site near Mansion House Station, at the junction of Queen Victoria-street and Great Trinity-lane, is to be laid out as a garden by the Hudson's Bay Company with the approval and assistance of the Corporation. The site is outside the main entrance of Beaver Hall. It is to be cleared of the existing advertisement hoardings by the Corporation and made available to the company, without charge, for a minimum period of five years. The company is undertaking to lay out the site as a garden for the use of the public, and to maintain it for the first six months, after which the responsibility will devolve on the Corporation.

Professional Announcements.

MR. H. ANTHONY CLARK, F.R.I.B.A., is relinquishing his appointment as Architect to the Wrexham Borough Council and entering into private practice with Mr. F. C. Roberts, B.Arch., A.R.I.B.A., on September 1. The name and address of the firm will be:—H. Anthony Clark, F. C. Roberts and Partners, 41, Regent-street, Wrexham (tel.: Wrexham 3339).

MR. L. MELVILLE ROSE, architectural surveyor, has removed his offices from 35-7, Maddox-street, W.1, to 19, South Molton-street, Mayfair, W.1 (tel.: Mayfair 6356-7), where he would be pleased to receive catalogues.

COMING EVENTS

Sunday, August 14.

INTERNATIONAL UNION FOR LAND VALUES TAXATION AND FREE TRADE.—Conference. "The Hayes," Swanwick, Derbyshire. Continuing until August 21.

Saturday, August 20.

TOWN AND COUNTRY PLANNING SUMMER SCHOOL.—Opening by the Rt. Hon. Lewis Silkin, M.P. University of St. Andrews.

FROM "THE BUILDER" OF 1849

Saturday, August 11, 1849

INIGO JONES designed Wilton House, and Mr. Gwilt, in his *Encyclopædia*, says those who have seen it "can appreciate Inigo's merit for having introduced into England, in the seats of our aristocracy, a style vieing with that of the villas of Italy." We were not there long enough to find this out for ourselves. Some disagreement appears to have arisen between Jones and the Earl of Pembroke, and in the Harleian Library, it seems, there is an edition of Jones's "Stonehenge," on which the Earl in question, to whom it formerly belonged, has written much abuse of the author, calling him "Iniquity Jones" and anything but an honest man. [From a leader.]

SECTIONAL PRESTRESSED COLUMNS

First Large-scale Use in Great Britain

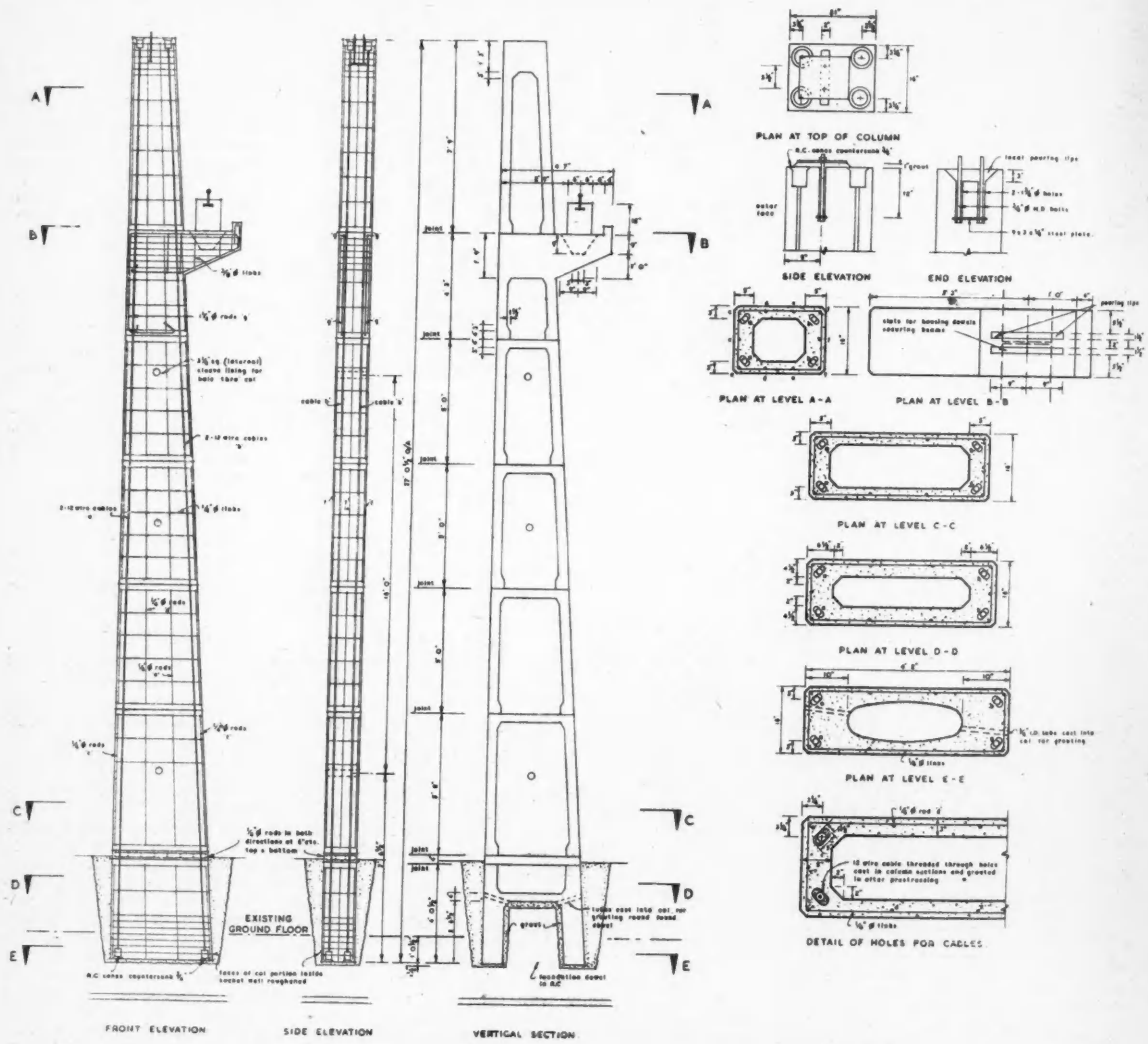
THIS building, designed with main columns of prestressed concrete and an aluminium alloy roof, is an extension to the existing works at Alexandra Docks of South Wales Board Mills, Ltd., board manufacturers. It is probably the first use in this country of prestressed concrete columns cast in separate sections and prestressed on site.

The building occupies an open strip between two older structures, whose brick walls form its boundaries for the full length on either side. This strip is 58 ft. 6 in. wide from wall to wall and about 800 ft. long. The brick walls are 16 ft. high to the eaves and both have piers at 15 ft. centres to support the trusses of the adjoining buildings. In paper and board milling processes high atmospheric humidity is usual, and by adopting the aluminium roof construction it is considered that no other special precautions to prevent corrosion are needed, and the expense and inconvenience of frequent painting are removed.

The new prestressed concrete columns were precast in two ways: some were precast in one piece and others in a number of separate sections. These columns are set 62 ft. 6 in. apart over the outer faces and recessed into the brickwork of the old walls. They are also spaced at 15 ft. centres, but to avoid imposing additional load on the existing foundations, they are placed midway between the brickwork piers. Sections of the brickwork were cut away to accommodate them, and some underpinning of the existing roof trusses was necessary. The extension is 36 ft. high to the eaves, and for the additional height above the tops of the existing walls aluminium alloy sheeting rails are bolted to the columns and carry a cladding of asbestos cement corrugated sheets and windows. The same rails and cladding also enclose both ends of the building.

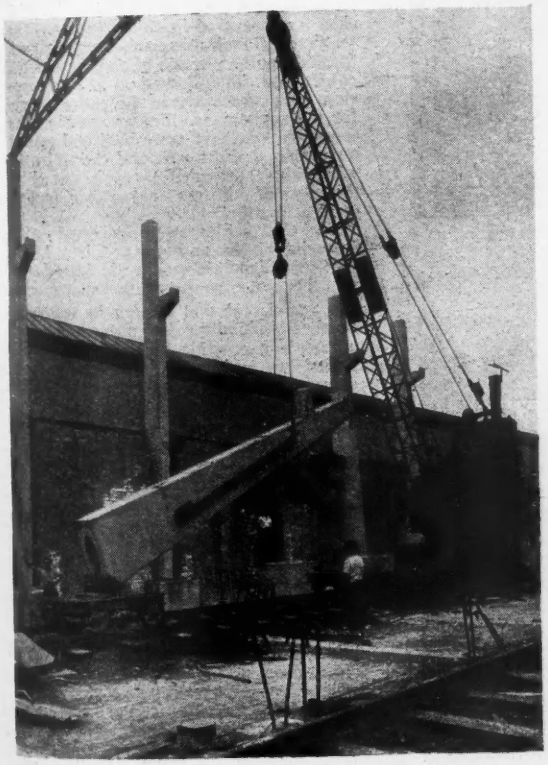
The building will accommodate the four processes of manufacture from raw material to finished product within its length. For approximately 120 ft. at the west end, where raw material enters and is stored, the structure is left open from ground to eaves. In the second section, a floor of normal reinforced concrete for supporting preparation plant machinery is constructed on a series of internal columns and beams. This floor was cast *in situ* and encases anchor rods left projecting from the prestressed columns. In the third section, a similar floor, constructed 9 ft. above ground level, will also carry machinery. Together, the floors give full lateral rigidity to the structure and transfer part of the wind load to the internal columns. At the "wet end" of the third section a reinforced concrete water tank is constructed for the collection of water. The remaining 150 ft. length of the building is again open from ground level to eaves and is used for the storage and despatch of the finished products.

FOUNDATIONS.—After a soil investigation of the site had been made, it was decided to limit pressure on footing and raft foundations to 6 cwt. a square foot and to use piling for the heavy machinery foundations. The piles were of two kinds. "Simplex" were used over most of the site and pressure piles where the work had to be done near existing foundations. Both



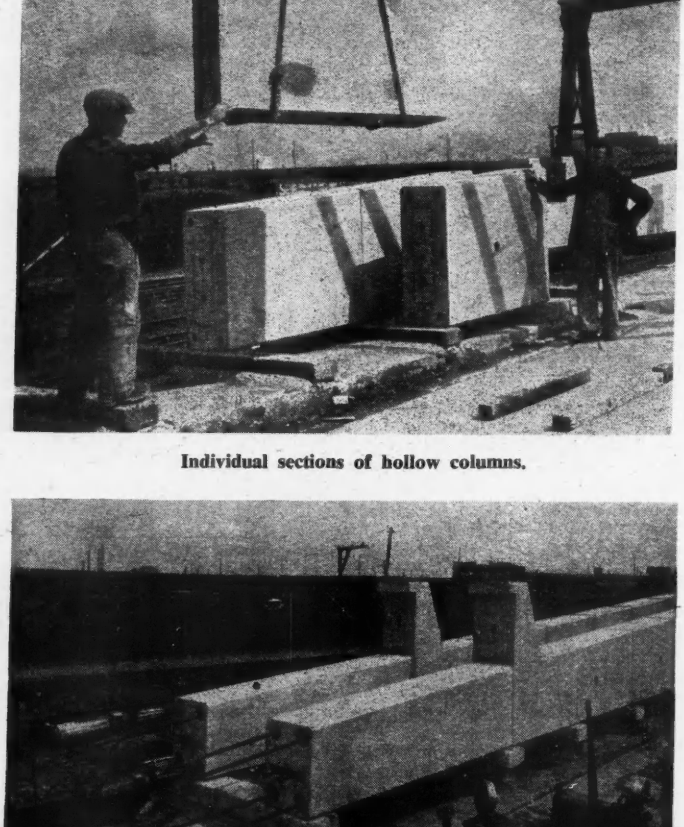
PRESTRESSED HOLLOW COLUMNS, TYPE B: Elevations, section and plans.

The building under construction, showing prestressed columns and light-alloy roof trusses.

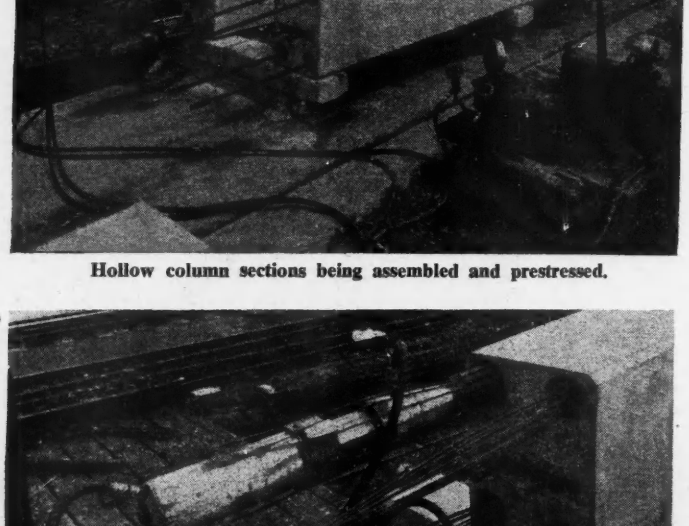


Hollow column being hauled into position.

A hollow column as lowered into place.



Individual sections of hollow columns.



Hollow column sections being assembled and prestressed.

Detail view of Freyssinet double-acting jacks.

were 55 ft. to 60 ft. long. The prestressed columns were placed, grouted and concreted into socket housings formed in all foundations, including those on pile caps superstructure.

SUPERSTRUCTURE.—Altogether there are 104 precast prestressed main columns incorporated in the structure. They are of two types, one hollow and one solid. Solid and hollow columns are of approximately equal weight but, weight for weight, those of hollow section are far stronger and were used where no stiffening intermediate floors occur. The solid type, of 12 in. by 30 in. cross section, were used in the central areas where the *in situ* floors give intermediate support.

The concrete mix for both types was 3 cu. ft. of ⅜-in. to ¼-in. crushed Penmaenmawr granite, 1½ cu. ft. of Mersey grit (river sand) and 1 cwt. of rapid-hardening cement with a low water/cement ratio. Cube crushing strengths actually recorded were 6,400 lb. per sq. in. at 5 days, rising to 9,000 lb. per sq. in. at 8 weeks.

In the solid columns, of which there are 58, five 12-wire (high tensile) cables, encased in 30 gauge sheaths, were used, anchored at the ends into 10 Freyssinet concrete anchorage cones. The cables were stressed two at a time with Freyssinet double-acting hydraulic jacks and then grouted in.

The columns are designed not only to support the roof but also to carry the rail for a large hand-operated crane which runs the length of the building, as well as three smaller electrically-operated ones. Cantilever brackets formed on the inside to support the crane runway were reinforced with mild-steel rods. The hollow columns vary from 16 in. by 21 in. at the top to 16 in. by 50 in. at the bottom, and were used in the open portion at either end. These were precast in seven separate segments, each with 3-in.-thick side walls and 5-in.-thick ends. Four longitudinal holes in each segment were formed for the passage of the prestressing cables and four Freyssinet precast concrete cones were cast in the end segments for the anchorages. For prestressing, the segments were first assembled end to end on prepared platforms and the 4 by 12 wire cables threaded through. A ¼-in. thickness of stiff mortar was then applied to the abutting surfaces and, 24 hours after, the cables were stressed with Freyssinet jacks and grouted in. Mild-steel reinforcement was again introduced into the crane runway brackets.

It was found that casting in segments greatly simplified the design of the moulds and made it possible for the work to be carried out under cover and under close supervision. All work on the solid columns was performed in the open.

The amount of prestressing, for the solid and hollow types of column alike, was checked both with calibrated pressure gauges and by the recorded extension of the cables. Few cases of slip were noticed, and did not exceed one wire in 48. The columns, which weighed about six tons each, were all provided with special holes for lifting and handling.

The crane used for the unloading and erection of the columns was also employed to place the 60-ft. span aluminium alloy roof trusses. These "Alframe" trusses are approximately a quarter of the weight of steel and require no painting or maintenance. They were lifted into position from the apex in one piece, without the use of scaffold poles or other temporary stiffening. The purlins and wind bracing are also of aluminium alloy,

the roof being finally covered with corrugated asbestos cement sheeting.

Structural design of all reinforced-concrete work and prestressed concrete was by Mr. J. Bak, B.Sc., M.I.Struct.E. The surveyors were Messrs. G. A. Neill and Co., Ltd. Main engineers and contractors for the prefabricated superstructure, precast prestressed concrete columns and aluminium alloy roof structure were Messrs. Structural and Mechanical Development Engineers, Ltd., of Slough, Bucks. Sub-contractors for the erection of the superstructure and main contractors for the foundation and other *in situ* reinforced-concrete work were Demolition and Construction Co., Ltd., of St. James'-square, S.W.1. Sub-contractors for precast prestressed concrete units: Liverpool Artificial Stone Co., Ltd., of Liverpool.

History of Architectural Education

By MARTIN S. BRIGGS, F.R.I.B.A.

4.—In England Since the Renaissance

THE status of the architect was not materially affected by the Renaissance before 1550, and his training continued to take the form of apprenticeship. When John Shute published his manual of the Orders in 1563, under the title *The First and Chief Groundes of Architecture*, he created a landmark; for he not only established a knowledge of the Orders as the basis of education but also revived the term "Architect." Before the advent of Inigo Jones, we find a small group of men—including John Thorpe, the Smithsons, Lyminge, and Simons of Cambridge—who were indiscriminately styled "architect" or "surveyor," and may also have undertaken building operations. Inigo Jones's training cannot be regarded as normal; he was 42 years of age when he was appointed Surveyor of His Majesty's Works in 1615, and prior to that date had acquired a considerable reputation as a designer of masques or pageants, but his employment in each capacity may be attributed to his travels in Italy and his study of the ancient Roman ruins.

From its first appearance in England nearly a century earlier, the Renaissance movement in architecture had been a fashion encouraged by the Court and the nobility, so Jones was favoured as a man who had acquired first-hand knowledge from the fount of all inspiration—Rome—and had also studied the work of Palladio and other Italian masters. It was knowledge of this kind, not a practical skill in building methods, that was chiefly valued at the time; and Sir Henry Wotton, whose *Elements of Architecture* (1624) is so often quoted nowadays, was a cultured amateur who had studied architecture in Italy while serving there as a diplomatist. Inigo Jones must have had a fair general education in order to hold his own at Court, but there is no reliable record of his technical training: indeed, his pupil and relative, John Webb, states that "there is no certain account in what manner he was brought up, or who had the task of instructing him."

The First Architect-Knight.

Sir Roger Pratt (1620-84), now credited with the design of Coleshill, has become a substantial figure in architectural history lately, as a result of research by Dr. Gunther. He was a man of means, having inherited his father's estate in 1640, when he left Magdalen College, Oxford, and became a student of the Inner Temple. He then travelled extensively in Italy and elsewhere, studying architecture, till 1649; accumulated a large library of architectural books; became one of the Commissioners for rebuilding London after the Great Fire in 1666; was knighted in 1668 (the first architect to be so honoured); and retired in 1669. The notable point about his career is that he entered architecture late after an excellent general education and after prolonged study in Italy. The amazing versatility of Sir Christopher Wren (1632-1723) needs little description here: his career is, or ought to be, familiar to all architects. He was at least 30 before he turned, as a complete "amateur," to architecture: and he had *not* studied in Italy. His friend and contemporary Robert Hooke (1635-1703) is not so well known, but had a scarcely less dazzling career, for he was not only a scientist of the first class but also the designer of Bedlam Hospital and other famous London buildings. He, too, was one of the architects appointed to rebuild London after the Great Fire. Sir John Vanbrugh (1664-1726), another "Admirable Crichton," though of a very different type, suddenly plunged into architecture at 35 years of age, when the Earl of Carlisle invited him to design the colossal mansion of Castle Howard. Vanbrugh was then chiefly known as a rising dramatist, but one legend credits him with "two years in France to study house-building," and Carlisle is said to have been impressed by his skill in drawing and design. The careers of these notable figures are cited here as evidence that the greatest buildings of the seventeenth century in England were produced by architects who had little or no orthodox training and who began practice comparatively late in life.

Some Architectural Antecedents.

Having analysed the biographies of the sixteen leading architects of the next century as a basis for generalisation, I find that about half of them came from the upper and professional classes, and the remainder from the artisan class. Three were sons of architects, and only four or five of the remainder had any professional training; two at least entered architecture late. Kent was apprenticed to a coach-builder, Batty Langley began as a landscape gardener, Carr as a mason, Flitcroft as a joiner, Ripley as a carpenter, Dance the elder as a shipwright. Wood the elder as a road surveyor, and Chambers as a supercargo. Gibbs and Archer were fortunate enough to receive a university education, and both travelled extensively in Italy before entering architecture, Gibbs spending ten years abroad and Archer four. Kent, James Wyatt and Ware were sent to Rome by "noble patrons," Dance the younger and Robert Adam by their architect-fathers; and among others who studied in Italy were Ripley and Chambers. No schools of architecture existed before 1768, and the so-called "school of architecture" founded by Batty Langley was intended for the instruction of carpenters in the indispensable rules of the Orders. Even for so comparatively recent a period, we know very little of the actual processes of architectural training; and the only safe deductions from my statements above are that about half the successful practitioners of the eighteenth century were systematically trained, and that a similar number studied in Rome. The education of the remainder was nondescript at best.

The Royal Academy School.

The Royal Academy, with its School of Architecture, was founded in 1768. Of the 34 foundation-members, five were architects—Thomas Sandby, John Gwynn, William Tyler, Sir William Chambers and George Dance. Sandby was the first professor of architecture, holding office till 1798. The terms of his appointment provided for six lectures per session, "calculated to form the taste of the students, to point out to them the beauties and faults of celebrated productions, to fit them for an unprejudiced study of books, and for a critical examination of structures." Sir John Soane (professor of architecture 1806-37) had a violent quarrel with his Council in 1810 because, against the Academy's regulations, he introduced criticisms of living architects' buildings into his lectures. The post was abolished about a century later, but a Master was appointed for the architectural school. Apart from lectures, criticism of designs was given by "Visitors," *i.e.*, Academicians and Associates serving on a rota. Messrs. Hodgson and Eaton in their book *The Royal Academy and its Members* (pp. 52-3) commented: "This marks the most radical difference between the Academy of this country and that of other nations, where every department is under a permanent professor armed with full authority. Each system has its advantages and its disadvantages. . . . Under a permanent professor, there can be no vacillation or change of purpose; his will asserts itself equally and uniformly, and the progress made is more apparent. . . . But it cannot be denied that frequent changes among the teachers, and the consequent presentation of different classes of ideas, may have the effect of puzzling and retarding the weaker minds." Throughout the School's existence, instruction has been provided gratis for picked students. Up to the recent substitution (in 1947) of a full-time post-graduate course in civic architecture, all teaching was given in evenings. In the first year of its life, 1768-9, only three architects are known to have enrolled out of a total of 77 students in the various schools. Subsequent official records show that from 1768 up to the closing of the architectural school in 1939, 1,689 students had passed through it, *i.e.*, almost exactly ten admissions per annum. They included many men who afterwards became famous, and among winners of the Academy's Gold Medal and Travelling Studentship were Soane (1771), the two Smirkes, Norman Shaw (1854) and Ernest George (1859).

The Pupilage System Defended.

The nineteenth century was the heyday of the pupilage system in English architecture. Repeating my method of generalisation adopted for the eighteenth century (see above), I find that, out of a score or so of the most eminent architects in Victorian days, nearly all were of middle-class birth and nearly all served a proper term of articles. Several of the most brilliant among them—*e.g.*, Barry, Street, Pugin and Gilbert Scott—began their technical training at 15 or 16 years of age; and only one of my twenty had a university education. The "noble patron" fades out, but most of the architects in question, especially those who were architects' sons, travelled abroad during or after student days. Several, at the beginning of the century, journeyed to Greece, which was, in fact, more accessible than Italy during the Napoleonic wars, and

Cockerell's travels read like a tale of adventure (see my *Architect in History*, pp. 335-6). Most of the leading architects of the Gothic Revival travelled abroad, too, but Italy was no longer their sole objective and they filled their sketchbooks with picturesque "bits" from all the countries of Western and Northern Europe. The pupilage system, which flourished unchecked to the end of the century, was by no means the despicable thing that some modern writers would have us believe; and it had its humours as well as its close personal contact between master and neophyte. The iron discipline exercised by Mrs. Pugin (mother of Welby Pugin) over her husband's group of young pupils makes amusing reading; and, a generation later, Thomas Hardy (R.I.B.A. Essay Medallist, 1862) was a product of typical country pupilage, though he eventually turned his talents elsewhere.

The Royal Academy's evening school provided the only means of supplementing pupilage until evening classes were established by King's College (1840) and University College (1841) in London; by the Architectural Association, also in London, in 1847; and then at many provincial centres. The first full-time day course in architecture was established at Liverpool University in 1894, and the next at the Architectural Association in 1900. The two schools of London University were amalgamated as a day school in 1913. The rapid development of full-time training has continued ever since, but the story of its recent growth can hardly be dealt with in these "historical" notes, and in any case is well known.

(Concluded)

*** Earlier articles in this series appeared in our issues for July 22 and 29 and August 5.

COMPETITION NEWS

Festival of Britain: Two Architectural Competitions

THE temporary buildings to be erected on the South Bank site will include a small restaurant (additional to the other restaurants already designed) and a "vertical feature." The design of both these structures is submitted to competition, the latter being open to all architects, designers, engineers and architectural, design and engineering students. The restaurant competition is restricted to registered architects and students. In both cases, competitors must be resident or practising in Great Britain.

Preference will be given to designs which are particularly economic in the use of materials and labour.

The Vertical Feature.

The Vertical Feature to be erected on the new River Embankment will be the dominant vertical element in the exhibition. It may be completely abstract in conception or related to the theme of the exhibition. The Feature should be a major demonstration of the originality and inventiveness of British designers, and must be equally effective by day and when illuminated at night.

The height of the Feature may be determined by the designer but it should relate to the adjoining buildings. The overall area of the site is 40 ft. square, excluding the ample promenade area surrounding its site, which may be employed for guying if desired.

The amount of steel and timber employed in the construction of the feature should be restricted to a minimum, but mechanical, electrical and hydraulic effects are not excluded.

The assessors will be the Presentation Panel of the Festival of Britain, *i.e.*, Gerald Barry, Hon. A.R.I.B.A. (Director-General); Cecil Cooke, F.R.S.A., F.I.A.M.A. (Director of Exhibitions); Misha Black, O.B.E., F.S.I.A., M.Inst.R.A.; James Holland, F.S.I.A.; Hugh Casson, M.A., F.R.I.B.A., M.S.I.A.; James Gardner, O.B.E., R.D.I., F.S.I.A.; Ian Cox, M.A. (Director of Science); Mark Hartland Thomas, M.A., F.R.I.B.A., M.S.I.A.; Ralph Tubbs, A.R.I.B.A.; and Antony Hippisley Coxe.

The premiums to be awarded are:—First Prize, £300; Second Prize, £150 and Third Prize, £100. Further fees will be payable for the preparation of detailed working drawings if any premiated design is constructed.

Restaurant Competition.

The Restaurant will be one of several in the South Bank Exhibition and will be sited on the new River Embankment. This Restaurant should be both an adventurous and a serious contribution to architectural design through the use of modern techniques. The qualities looked for will be suitability for purpose (*i.e.*, a restaurant in an exhibition) and of character, originality and inventiveness.

The Restaurant will be in the extreme south corner of the Exhibition, *i.e.*, overlooking the river and close to County Hall. The area of the site is approximately 14,800 feet super, but at least half of this area may be given up to garden. If an outdoor restaurant is planned it must be possible to roof it in in bad weather.

The use of soft woods must be restricted to a minimum and steel must be used as economically as possible. The ingenious use of canvas and similar temporary materials will be an advantage.

The assessors will be:—R. Furneaux Jordan, F.R.I.B.A., Misha Black, O.B.E., F.S.I.A., M.Inst.R.A.; Hugh Casson, M.A., F.R.I.B.A., M.S.I.A., Mark Hartland Thomas, M.A., F.R.I.B.A., M.S.I.A.; and Ralph Tubbs, A.R.I.B.A.

The premiums to be awarded are:—First Prize, £250; Second Prize, £200; and Third Prize, £150. Further fees will be payable for the preparation of detailed working drawings if the prize winning design is constructed.

The designs awarded premiums and such others as the assessors may decide will be publicly exhibited in London.

Those wishing to compete should write immediately for the full programmes. The final date for receipt of designs is November 1 for the Vertical Feature and November 7 in the case of the Restaurant Competition. All inquiries should be be addressed to:—The Secretary of the Presentation Panel, "Festival of Britain, 1951," 2, Savoy Court, London, W.C.2, the envelope being marked "Competition."

FACULTY OF SURVEYORS

Examinations Syllabus

THE Faculty of Surveyors of England, 8, Buckingham Palace-gardens, S.W.1, have issued in booklet form details of their intermediate and final examinations to be held from November 28 to December 1, 1949. The booklet is priced at 1s.

DESIGN SUBJECT FOR STUDENTS

"An Institute of Contemporary Arts"

AT the suggestion of the Institute of Contemporary Arts, a number of schools of architecture both in London and the provinces have agreed to set as part of their normal curriculum during the two forthcoming sessions the designing of an "Institute of Contemporary Arts."

Several meetings have taken place between representatives of certain schools and of the I.C.A. Schools represented at the meetings, under the chairmanship of Mr. J. M. Richards, were: The Architectural Association (Mr. R. Furneaux Jordan and Mr. David Goddard), University of London Bartlett School of Architecture (Mr. A. M. Foyle), Birmingham School of Architecture (Mr. A. Douglas Jones), University of Liverpool School of Architecture (Mr. Colin Rowe), Northern Polytechnic, London (Mr. J. E. Moore and Mr. Colyn Roberts). In addition, University of Manchester School of Architecture and Edinburgh School of Architecture have expressed a desire to co-operate in the scheme.

An exhibition of selected work by students produced under the scheme will be held at the Architectural Association, Bedford-square, London, from March 27 to April 21, 1950, and will then be circulated to schools in other parts of the country. Schools taking part will be responsible for selecting work of their own students to be sent for the exhibition, the number of schemes exhibited being roughly proportionate to the number of students engaged on the scheme at each school. Each school should send one or two more schemes than will actually be required for showing in order to allow a certain elasticity in the final composition of the exhibition. Models will be a feature of the exhibition.

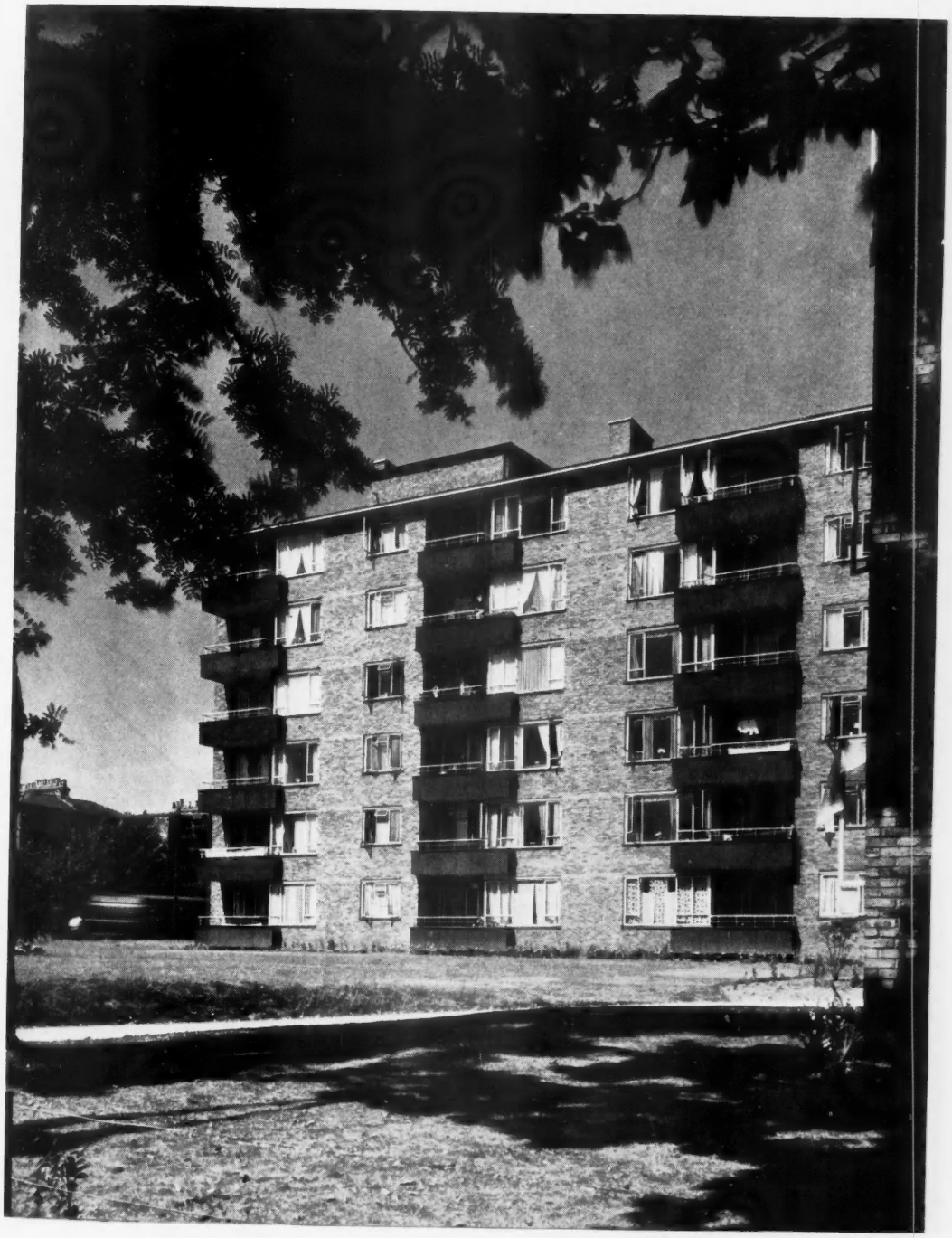
A choice is given of three types of site. Schools are at liberty to make up their own programmes based upon a draft schedule, and sites may be chosen either in London or in other cities, although it is felt that a London site would probably be more realistic. It is pointed out that the London schools taking part are to a large extent co-ordinating their programmes.

It should be noted that this is not a competition and no prizes are offered.

The Director of the Institute of Contemporary arts would be pleased to answer any queries which may arise in connection with the scheme. It is hoped that representatives of the Institute may be able to visit schools taking part to address the students engaged upon the work and to answer any questions.

Evening and Day Classes in Surveying.

THE City of Liverpool Technical College has organised new courses for students taking the professional examinations of the Institute of Quantity Surveyors. The courses commence next month and both evening and part-time day courses (one day per week) will be held. Fees are nominal. The prospectus will be obtainable towards the end of this month on application to the Head of the Department of Building, College of Technology, Clarence-street, Liverpool 3. Enrolment is from September 12 to 16 (evening classes) and September 5 (day classes).

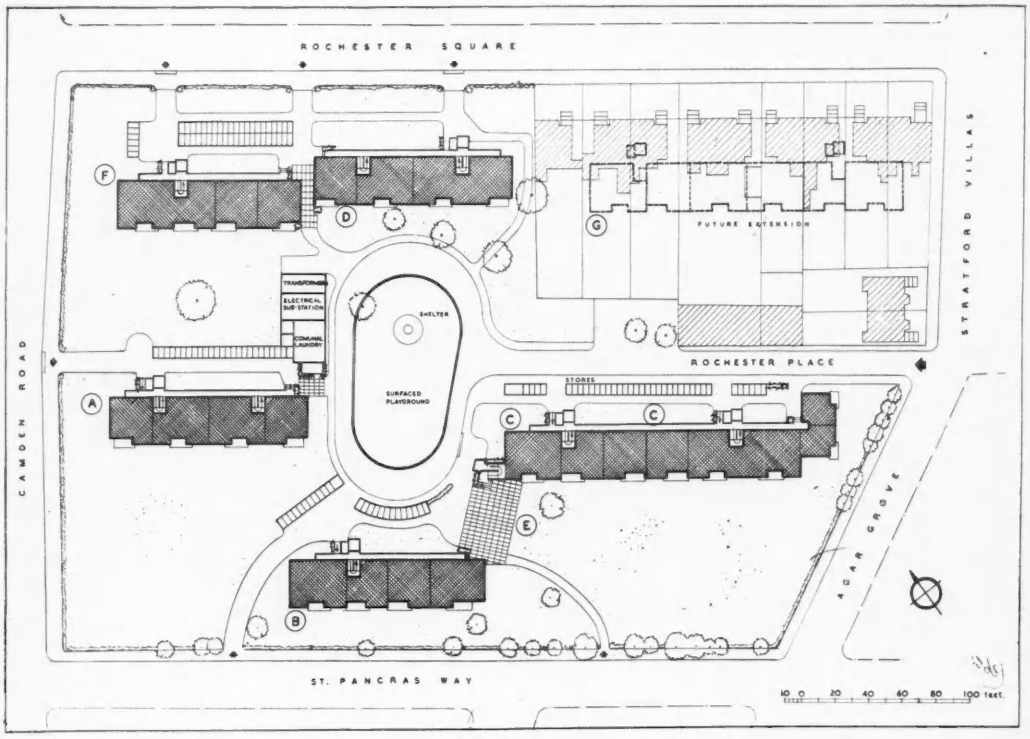


Detail view of Block A, from corner of Block B.

ST. PANCRAS WAY HOUSING SCHEME

for St. Pancras Borough Council

GRAHAM DAWBARN, C.B.E., M.A., F.R.I.B.A. (NORMAN AND DAWBARN), ARCHITECT
WHITFIELD LEWIS, A.R.I.B.A., ASSOCIATE-IN-CHARGE. C. A. RICHARDS, L.R.I.B.A., ASSISTANT



The layout.

THIS scheme provides 126 flats on a gross site area of 3.24 acres as follows: 1 room, 12 (for old people); 2 rooms, 18; 3 rooms, 43; 4 rooms, 30; and 5 rooms, 23. This gives a density of 39 flats, or 147 persons, per acre. There are five 6-floor blocks and one 5-floor block including open ground floor. Future extension over the remainder of the island site will provide a continuation of block C and an additional block G, giving an additional 64 flats.

The Borough Council's general requirements included: (*a*) Various flat types of from 2 rooms to 5 rooms, together with a proportion of 1-room flats for old people *not* segregated from the remainder; (*b*) Lift access for blocks over 4 storeys, generally serving not more than 4 flats per floor; (*c*) Constant hot water or independent water heaters, independent heating, with solid fuel fire in each living room; (*d*) Full laundry facilities, either by the provision of communal utility rooms in each block or a central communal laundry; (*e*) Space for organised games; and (*f*) Generous window areas.

The 6-storey flats are orientated N.E.-S.W. and "end on" to Camden-road, the main traffic route, for quietness. Generally, living rooms and bedrooms have a S.W. aspect. There is a 5-storey "link" block with open ground floor to provide covered space between blocks B and C. This contains the 1-room flats with verandahs open from S.E. to S.W. The communal laundry is grouped with the sub-station centrally on the site, and pram stores are in ranges on the "access" side of the blocks. The surfaced playground is within the "roundabout." Open spaces between blocks are grassed and existing trees are preserved where possible.

FLATS: All blocks have gallery access with one lift and refuse chute, and two staircases per block (24 flats) to provide alternative means of escape. The staircases are recessed within the blocks. As few bedrooms as possible overlook the access galleries. All flats have fully fitted working kitchens and living rooms with large window and glazed door leading on to a generous private balcony, partially recessed for privacy; 3-, 4- and 5-room flats have separate w.c. and bathroom, and all flats have a built-in fuel bin, linen, meter and hanging cupboards. There are glazed doors between halls and living rooms, 5 ft. wide in the larger flats.

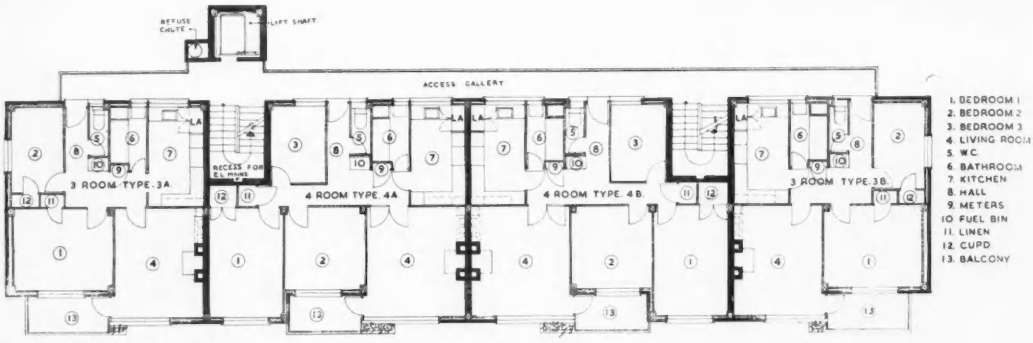
The kitchen-bathroom unit is standardised throughout and a large service duct contains the one-pipe soil and waste system and all hot and cold water services, including the individual electric thermal storage heaters and their feed and expansion tanks. Large hinged access panels in the bathrooms give access for all maintenance and removal of water heaters if ever necessary. Main electrical risers are housed in recessed ducts on staircases. Living rooms have gas-ignited open fires, with the exception of 1-room flats, which have built-in electric fires, instantly available to the old people without any labour. All bedrooms have power points for portable electric fires.

COMMUNAL LAUNDRY: This has 20 "Bendix" washing machines arranged in two banks, with the machines back-to-back and separated by a 2 ft. service way to take hot and cold supplies and waste pipes and provide access to back of machines. There is a water-softening plant with storage for three months' salt supply, and hot water is provided by a 300-gallon thermal storage heater. These particular machines leave clothes in a semi-dry condition and no drying room is therefore included in the building. The laundry has a small entrance hall and cloakroom and is grouped with the electrical sub-station.

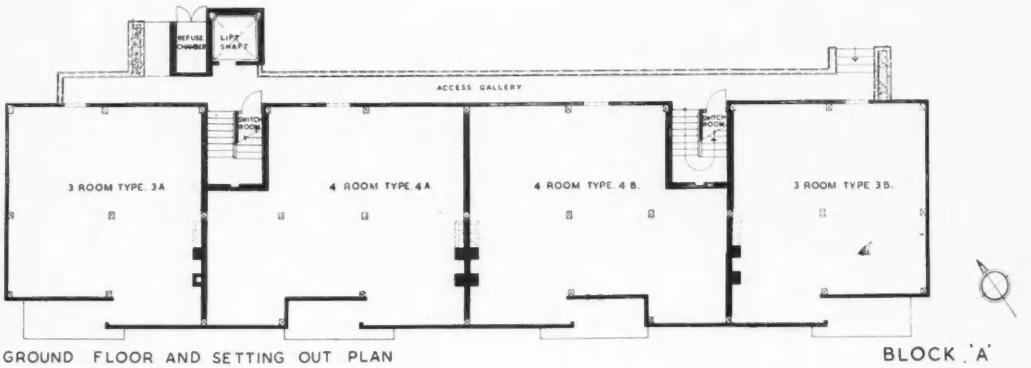
CONSTRUCTION.—*Flats:* (*a*) Steel framed with r.c. stanchion bases; all site connections bolted. (*b*) Cavity panel walls (L.C.C. waiver), i.e., 4½ in. brick outer skin, 2½ in. cavity and 2 in. breeze inner skin thereon, 9 in. staircase and party walls assisting wind bracing to steel frame. (*c*) R.c. hollow tile floors and roofs, and solid r.c. cantilevered galleries and balconies. (*d*) 2 in. breeze partitions laid on one course of engineering bricks which serve as skirtings. (*e*) Roof slabs screeded to falls with foamed slag (average 3 in.

Block A, from St. Pancras-way.

Block E (single-room flats) from the south-east.

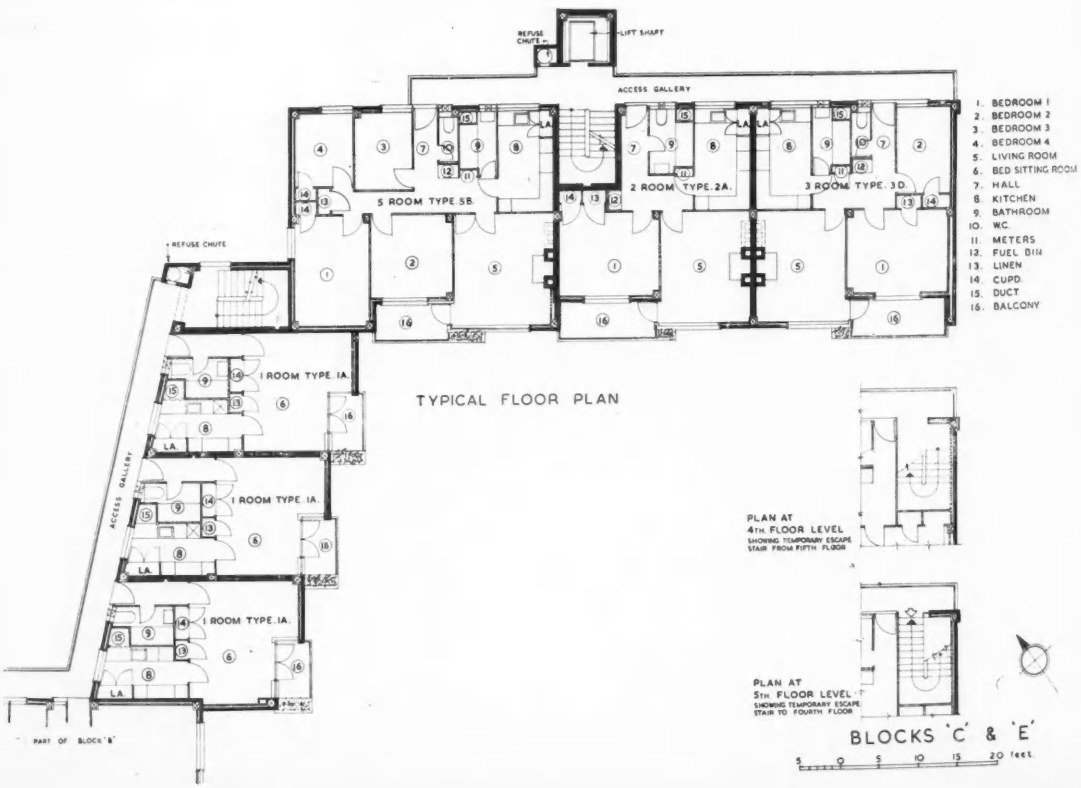


TYPICAL FLOOR PLAN



GROUND FLOOR AND SETTING OUT PLAN

BLOCK 'A'



TYPICAL FLOOR PLAN

PLAN AT 4TH. FLOOR LEVEL
SHOWING TEMPORARY ESCAPE STAIR FROM FIFTH FLOOR

PLAN AT 5TH. FLOOR LEVEL
SHOWING TEMPORARY ESCAPE STAIR TO FOURTH FLOOR

BLOCKS 'C' & 'E'

View of Blocks A, F and D, with central play-space in foreground.

thick), gutters formed in screed. Roofs covered with ¾ in. asphalt. (*f*) Standard E.J.M.A. wood casements. (*g*) Standard pressed-steel door frames.

Communal Laundry: Brick piers with rendered 9 in. panel walls; hollow tile roof slabs.

Pram Stores: 4½ in. brick walls with 3 in. brick-on-edge load-bearing partitions; 3 in. r.c. roof slab on "Hyrib" shuttering. There were no particular conditions laid down for elevational treatment, which is a simple and direct expression of the plan. External walls are in second stocks with a light joint. The balustrades of the private balconies are framed with tubular steel, with lower portion faced with "Durasteel" corrugated asbestos-steel sheeting finished with rough-textured stone paint and a hardwood capping. Access galleries and staircase balustrades are in steel tube with wire mesh panels.

External Colours: Brickwork, yellow stocks; balcony soffits, ivory cement paint; beam faces, etc., grey cement paint; windows, etc., ivory gloss paint; balcony fronts, Indian-red or bronze-green paint; balustrades, blue with bright yellow mesh panels; staircases, grey-green distempered walls above Indian-red painted dado; panel walls round lift entrances, blue engineering bricks; lift doors, brick red; and flat entrance doors, grey framing with lower panel in vertical oak battens, oiled.

INTERNAL FINISHES IN FLATS.—*Floors:* Columbian pine blocks in living and bedrooms; mastic asphalt in kitchens, bathrooms and halls. *Walls:* 2-coat plaster; living rooms, bedrooms and halls ivory distemper; kitchens and bathrooms ivory flat paint. *Ceilings:* Distemper throughout. *Tiling, etc.:* Kitchens and bathrooms have white glazed tiled splash-backs round sink, bath, basin, etc. Living room fires have simple slabbed tile surround and hearth. *Joinery:* Standard two-panel doors are finished, together with "metal-trim" frames, in grey gloss paint; wood casements and doors, ivory gloss paint. *Fittings:* Standard E.J.M.A. kitchen units are finished in gloss paint with ivory carcases and grey doors. Hardwood draining boards; lino-covered dresser tops.

INTERNAL FINISHES IN COMMUNAL LAUNDRY.—*Floors:* Terrazzo in laundry, lobby and cloakroom; grano in calorifier room and sub-station. *Walls and ceilings:* 7 ft. 6 in. white glazed tile dado in laundry. Flat paint above. Flat paint in cloaks, hall and calorifier room.

The general contractors were Messrs. Harry Neal, Ltd., who also were responsible for excavations, foundations and dampcourses. The clerks of works were Mr. H. Beswick and Mr. E. G. Hayler, and the general foreman was Mr. F. Wilkinson. The contract price was £189,000, which gives a price per foot cube* of 3s. 1d. for flats, excluding drains and siteworks, and a price per foot square† of 41s. 3d. for flats, excluding drains and siteworks. (Steel-framed blocks, mainly 6-storey with lifts.)

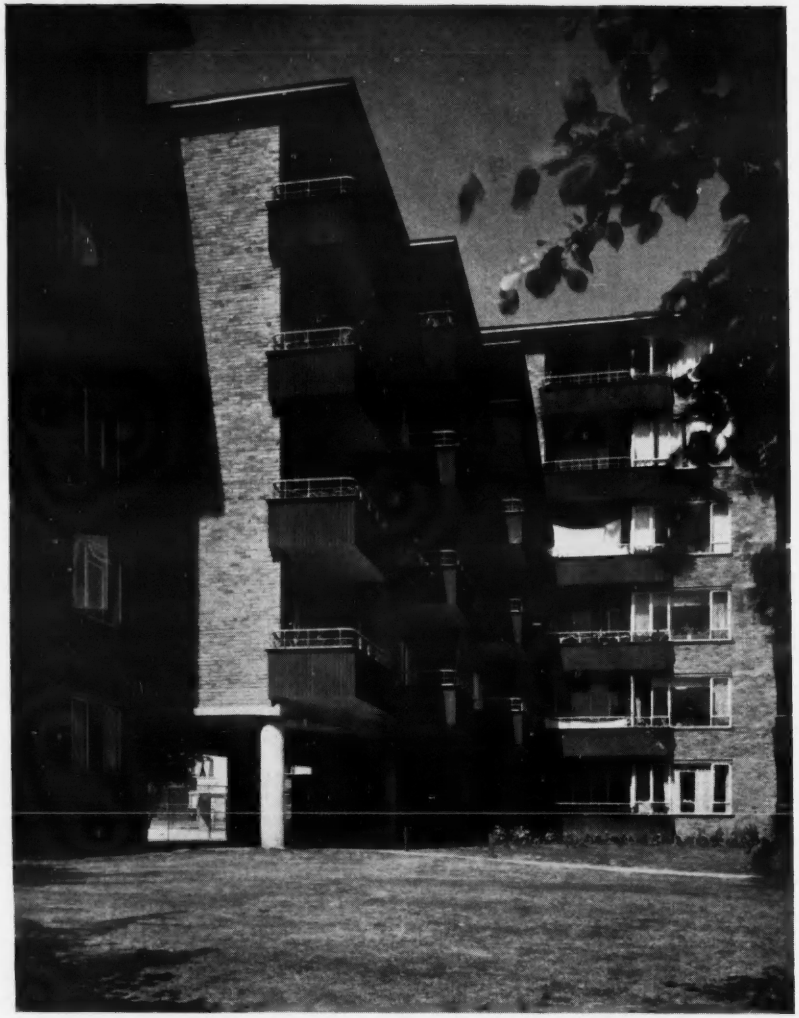
Sub-contractors for the structure were: Demolition, S. Bishop and Sons; asphalt, *Roofs:* Neuchatel Asphalte Co., Ltd., and *Floors:* Durable Asphalte Co., Ltd.; reinforced concrete, hollow tile floors, roofs and r.c. balconies, etc., Caxton Floors, Ltd.; bricks, second stock facings, Cement Marketing Co., Ltd.; cast stone, W. C. Richardson, Ltd.; structural steel, Redpath Brown and Co., Ltd.; built-up felt roofings, Everseal Products, Ltd.; glass, Aygee, Ltd.; and woodblock flooring, Horsley Smith and Co. (Hayes), Ltd.

Sub-contractors for the equipment were: Eagle "Sutton" gas-ignited grates, John Knowles and Co. (London), Ltd.; gasfitting, the Gas Light and Coke Co., Ltd.; electric wiring, Powerlite Electrical Installations, Ltd.; electric light fixtures, Troughton and Young, Ltd., and Holophane, Ltd.; plumbing, J. H. Shanksmith and Sons, Ltd.; sanitary fittings, Associated Clay Industries, Ltd.; door furniture, Nettlefold and Sons, Ltd.; E.J.M.A. Standard wood casement windows, Rippers, Ltd.; fire-proof doors to refuse chambers, Light Steelwork (1925), Ltd., and to sub-stations, S. W. Farmer and Son, Ltd.; and iron staircases, S. W. Farmer and Son, Ltd.

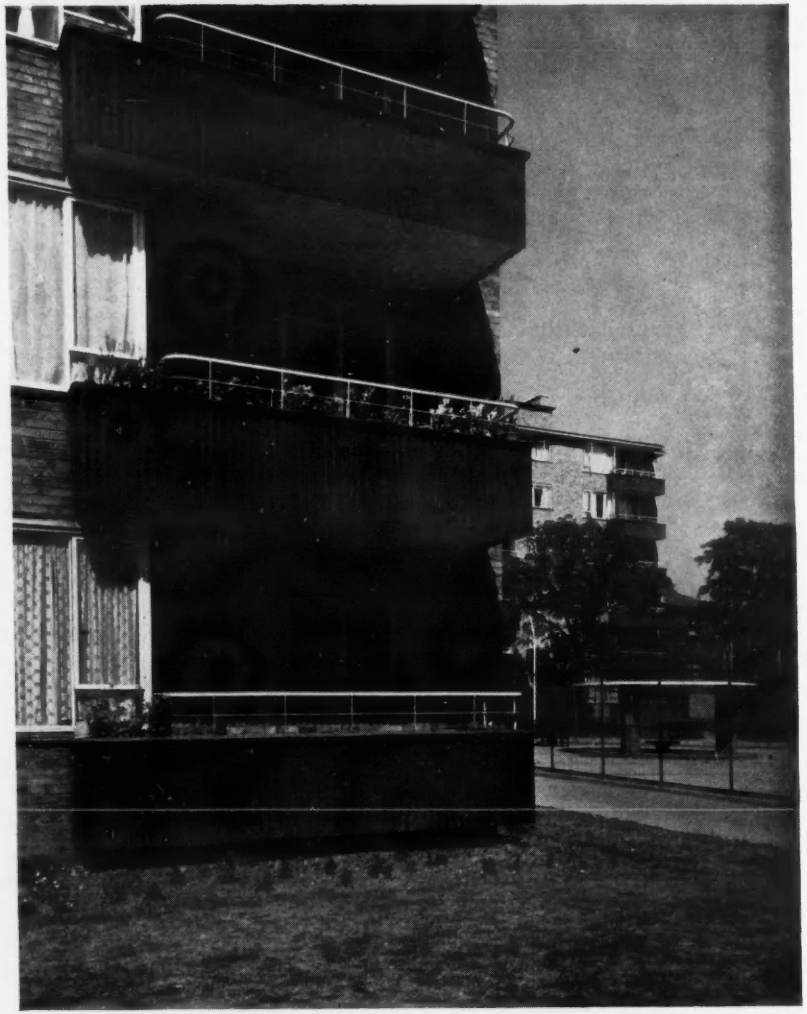
Sub-contractors for decoration and specialities were: Plaster, Plastering, Ltd. and A. E. Stinton and Son; metalwork: staircase and balcony, balustrade and duct in laundry, Light Steelwork (1925), Ltd.; joinery, and kitchen fittings, Kandya, Ltd.; marble and terrazzo flooring, Camden Tile and Mosaic Co., Ltd.; tiling, A. Bleakley and Co.; mantels and slabbed tile surrounds, John Knowles and Co. (London), Ltd.; painting, Daps, Ltd.; lifts, Bennie Lifts, Ltd.; water supply, Metropolitan Water Board; water-softening plant, Permutit Co., Ltd.; and lettering, Lettering Centre.

* Balconies, access galleries and covered spaces under Blocks E and F are cubed at 40 per cent. of normal cube figures. Total cost of laundry, pram stores, drains, water mains and siteworks—£16,200.

† The area is the net area of all flats within external walls and excludes all lift enclosures, galleries and balconies and staircases (which are of course included in the cost).

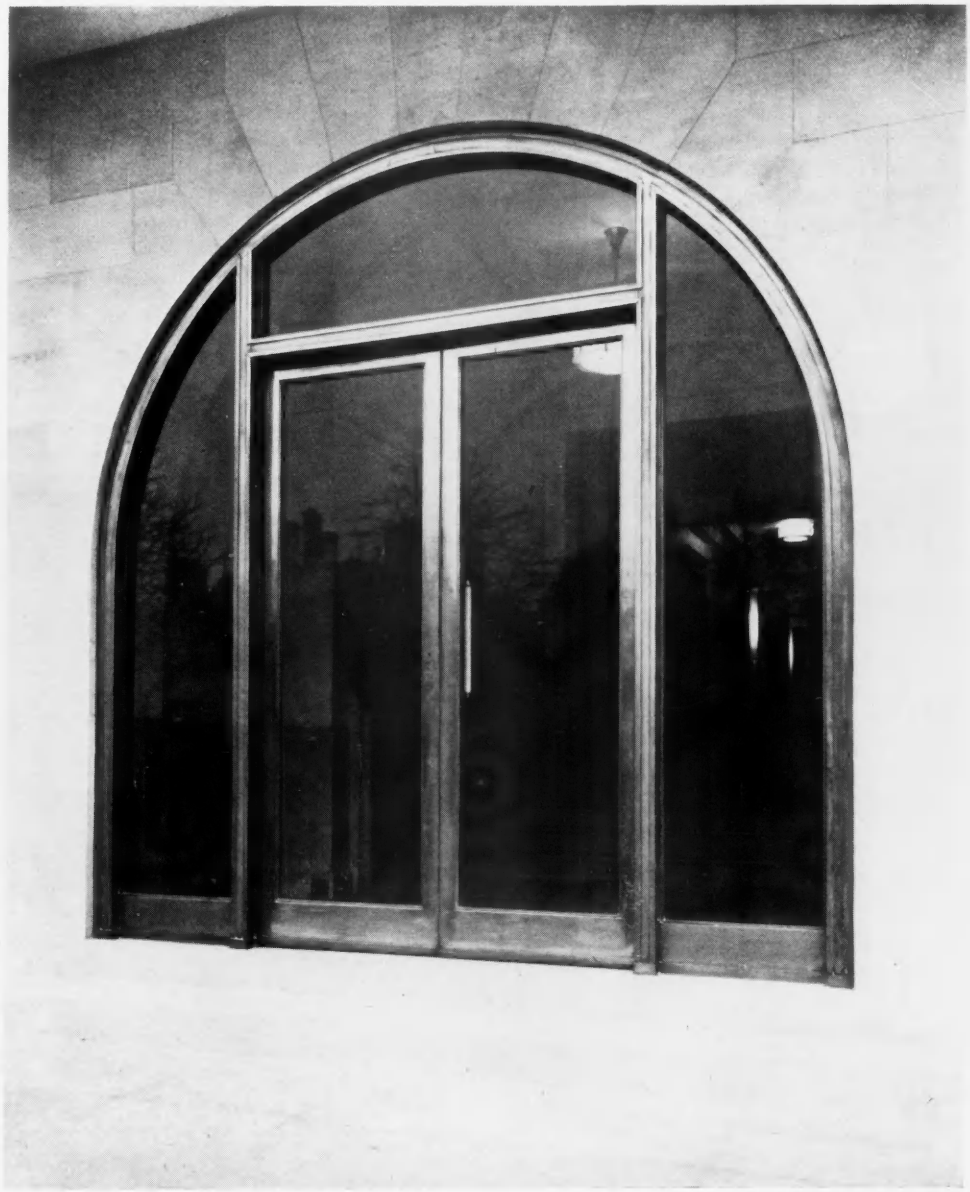


View of junction of Blocks E and C.



Detail of balconies at south-east of Block A.

ST. PANCRAS WAY HOUSING SCHEME, FOR ST. PANCRAS B.C. GRAHAM DAWBARN, C.B.E., M.A., F.R.I.B.A., ARCHITECT



From an Architect's Portfolio — 4

GARDEN ENTRANCE TO A BLOCK OF FLATS

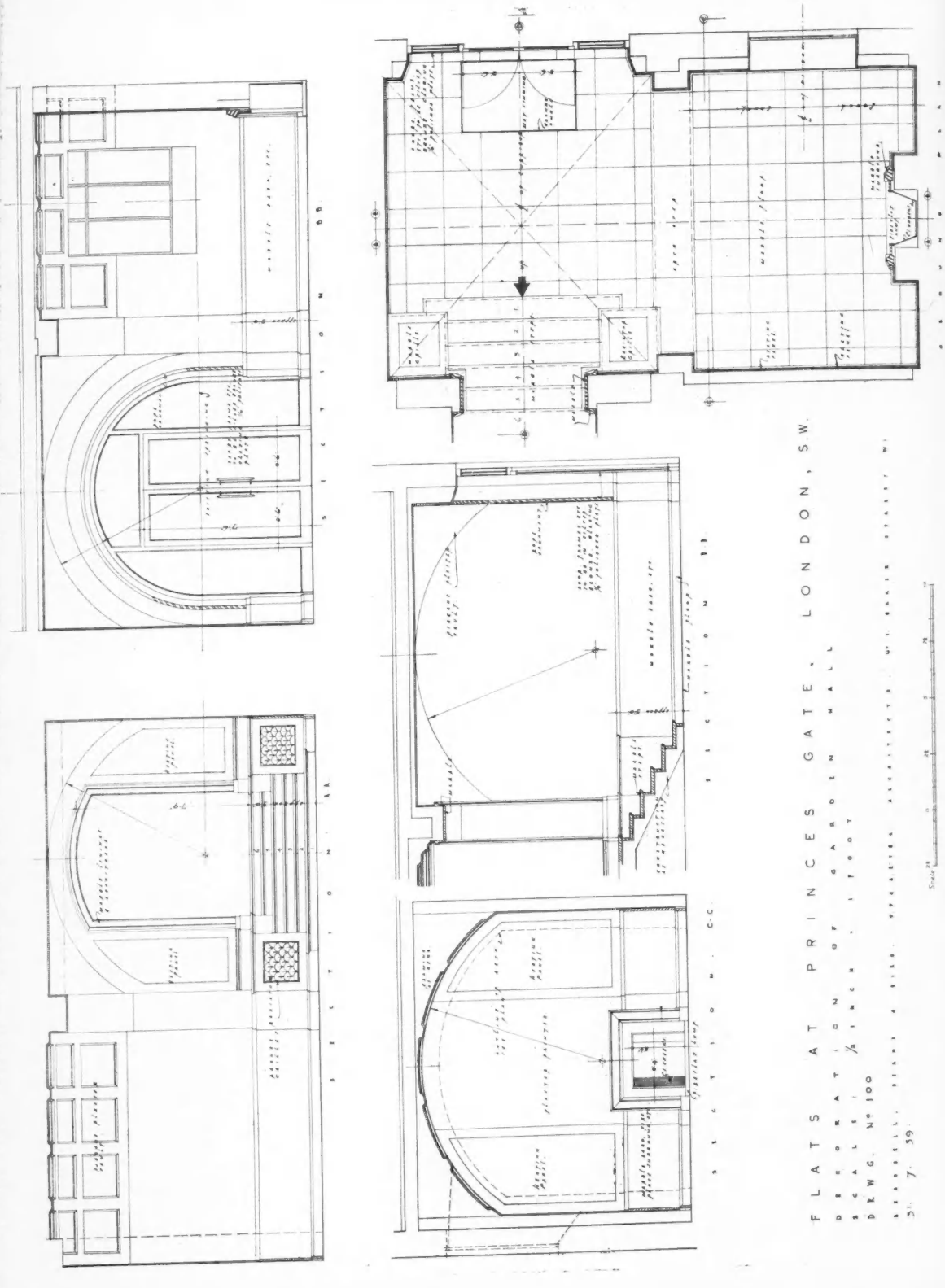
BRADDELL, DEANE and BIRD, FF. and A.R.I.B.A., ARCHITECTS

THESE illustrations, the fourth in this series, show the exterior of the garden entrance to a block of flats erected before the war in Prince's-gate, Kensington.

The idea underlying the design was to make the charming garden at the back of the premises as visible as possible, the doorway being treated as little more than a transparent screen to provide a view from the garden hall.

The metalwork shown is executed in silver bronze, and the dado and floor of the hall within are carried out in Subiaco marble.

The architects were Messrs. Braddell, Deane and Bird, FF. and A.R.I.B.A.


FLATS AT PRINCES GATE, LONDON, SW.
DECORATION OF GARDEN WALL
SCALE: ½ INCH = 1 FOOT
DRWG. Nº 100
31. 7. 39.
SECTION BB
SECTION AA
SECTION CC

CORRESPONDENCE

War Damage Repairs in the City

To the Editor of *The Builder*.

SIR,—As a result of recent experiences, it occurs to me that it is not generally known amongst members of the architectural, surveying and estate management professions that the Direction made by the Corporation of London under Article 5 of the 1945 Order is still continued in force by Article 4(5) of the 1948 Order, in so far as that Direction relates to war damage repairs.

The effect of this Direction is that where it is proposed to carry out war damage repairs to a building in the City of London exceeding £300 in aggregate cost, planning permission must first be sought.

Failure to appreciate this fact has resulted in a number of war-damaged buildings being repaired at considerable cost when in fact, had planning permission first been sought, such permission would have been refused on the grounds that the sites of the buildings were required for the proper redevelopment of the area in which they were situated. In such cases, when subsequently planning permission has been sought to retain the works, the Corporation has found it necessary, in the public interest, either to refuse consent or to limit the period of consent, either course resulting in financial loss, both to the developers and to the Corporation.

In these circumstances, you may feel that it would be desirable to draw the attention of your readers to these facts, and so assist in preventing future abortive expenditure and loss of public funds.

H. Anthony Mealand,
City Planning Officer,
Corporation of London.

55-61, Moorgate, E.C.2.

R.I.B.A. Form of Contract, Practice Note 14

To the Editor of *The Builder*.

SIR,—The paragraph under the above heading in the article in your issue of July 15 appears to indicate in the recommendation that timber should be described in bills of quantities or specifications as "best quality timber obtainable under licence," that the chief object of bills of quantities appears at least to have been obscured. The provision of bills of quantities is aimed at providing a precise basis for the preparation of an estimate, and the description suggested produces precisely the opposite result, leaving the contractor entirely in doubt as to the grade of timber upon which his estimate is to be based.

For many years architects and surveyors have failed to appreciate the benefits in this respect which result from the specifying of a definite grade of timber, whereas the Ministry of Works has for years adopted a satisfactory description from this point of view. Before the war they specified the grade of timber required under joinery and carcassing headings in terms of the accepted Baltic and American gradings.

Certain imported softwoods require special release for joinery purposes and only a small proportion of the total needs of the country for joinery can in fact be provided from the slender resources of the "clears" in Canadian and highest grades of Baltic softwoods. If, in specifying, architects stated that the basis of the estimate was to be No. 2 Clear and Better Columbian Pine or the Baltic softwoods, which are subject to special release by the Board of Trade for joinery purposes, the contractor would know exactly what he is pricing. Any adjustment in price on account of a less expensive grade of timber would be made automatically at the end of the contract, but the contractors would not be pricing on an unequal basis. No one is to know at the time of tendering exactly what timber will be released under licence. In the case of carcassing timbers, unsorted grades of Baltic and select merchantable grades of Canadian timber could be specified, and this would exclude unfair competition by those who may be willing to purchase timbers of grades inferior to those where an indefinite specification is given.

It would be helpful if all architects and surveyors would study the specification adopted by the Ministry of Works and the general specification for buildings and works issued by the War Department.

For Theo. Conway, Ltd.,
D. Conway,
Managing Director.

Weymouth.

Clerks of Works Diploma

To the Editor of *The Builder*.

SIR,—Mr. Loweth's dislike of the Association of Building Technicians (your issue for August 5) is well known. It has its origins, I believe, in the opposition which the A.B.T. expressed some years ago to what they considered an unreasonable form of contract which the Kent County Council, to whom Mr. Loweth is Architect, sought to impose on people entering their service. In particular the A.B.T. opposed the treatment, which they considered unfair, of an officer who wished to leave the Architect's Department.

We did not, therefore, expect from Mr. Loweth the courtesy of asking our permission before quoting from a letter received from us, but we are surprised at his assumption that we should present him with a list of our members "in order to ascertain whether or not" our claims are "fully justified." Mr. Loweth's disbelief would not disturb us. Nor do we expect his support for our policies; if we received it we should suspect they were wrong. We are anxious, however, to retain the support of our members and we are sure that we shall retain it by our refusal to supply details of our membership to Mr. Loweth.

Kenneth Campbell, A.R.I.B.A.,
President, Association of
Building Technicians.

London, S.W.1.

To the Editor of *The Builder*.

SIR,—Referring to Mr. Loweth's letter in the last issue of *The Builder*, it was indeed refreshing and inspiring to find a County Architect investigating the apparent confliction concerning the A.B.T. and the Institute of Clerks of Works.

The clerk of works holds an extremely responsible position, requiring integrity and an immense amount of knowledge which is usually acquired by an enthusiastic approach to all the building crafts, in conjunction with unlimited study at either the technical schools or at home in his spare time. By reason of his training and specialised ability, the clerk of works' duties are of a professional nature, requiring a professional status, and it is to this ultimate end that the old-established Institute of Clerks of Works has been and is constantly striving. It would therefore appear that a Trade Union is not the desirable medium through which to organise this band of men.

The comprehensive and high standard set by the Institute in its examinations ensures that a member is definitely competent and qualified to carry out the duties of a clerk of works, and amongst these members are the foremost men of the profession.

When the Institute can rely on leading architectural people like Mr. Loweth for support, a reasonable status for the clerk of works is assured.

I sometimes wonder if it is worth all the hard work and study involved when I see a post advertised for a clerk of works at £8 per week.

Fredk. J. Bone.
(Member of the Institute of
Clerks of Works.)

140, Winchester-road,
Basingstoke.

Apprenticeship

To the Editor of *The Builder*.

SIR,—With reference to the speech by Mr. Nigel Hannen at the meeting of the South-Eastern Area of the London Master Builders' Association (reported in your issue for August 5), I am astonished to find that Mr. Hannen is, apparently, advocating a return to the old system of learners, whereby learners should eventually blossom into craftsmen. Surely, the industry is suffering at the present time from too many inadequately trained craftsmen!

We hear a lot these days of the necessity of reducing building costs, and surely one of the ways to bring this about is to have a force of fully trained craftsmen able to do their work economically.

While it may be true that at the present time there may be a demand for men who can do the simpler jobs satisfactorily, nevertheless, we all hope that these days will pass, and unless we take the proper steps to train craftsmen for the industry, we shall be faced with the serious position that the industry will be unable to undertake the erection of finer buildings on account of the dearth of craftsmen.

I am wondering whether the remarks of Mr. Hannen are expected to be taken seriously. Or does he really mean that he is advocating "craftsmen-on-the-cheap," or "cheap craftsmen"?

E. L. Jones,
London Regional Secretary,
N.F.B.T.O.

11, Weymouth-street, W.1.

To the Editor of *The Builder*.

SIR,—With reference to Mr. Nigel Hannen's and Mr. Norman Longley's recent remarks, I suggest the time is very ripe for a complete revision of the basis of apprenticeship.

Whilst engaged in the recent "spot of bother," one had real opportunities to talk to skilled operatives and learn their views, and in our own highly technical and skilled unit (Army Troops R.E.) we all had the impression that the new "Apprenticeship Board" would be the nominal "employer" and would allocate boys to firms willing and able to take them. In the event of trade slackness for a particular firm, or to give a lad opportunities of doing work different from his normal run (e.g., in a "mill" or "shop"), they would be the body to effect a mutual exchange—between equally willing employers. This, however, has not been the case, although the present scheme is probably better than pre-war.

As one of the smaller firms restarting, we have taken on one lad, but, frankly, he does not get all-round training, as we have no "shops" and our general run of work is of rather a limited nature. We do not feel we can take on another—especially in brickwork or plumbing—as whilst it is agreed that the trade, as a

whole, is at present working nearly to capacity, individual smaller firms may very easily be extremely slack.

I suggest, therefore:—

1. Apprenticeship to be reduced to four years and perhaps to less if a lad earns over a certain percentage at a technical school.

2. That in each provincial town, London area, or some similar relatively small unit, there should be one "master" to whom all boys are indentured.

3. That "master" should maintain a pool of employers in his zone who would undertake to train boys. They should then be freely transferable within this pool, either for the benefit of their training, or for good reason given by either party.

We must have new blood, and a relatively untapped source, both for absorption from apprentice master schemes and also for all-round training, is the smaller contracting and maintenance builder who, at present, if conscientious, does not feel himself able to undertake sole responsibility, but might work in a group.

Your space is limited, and this is, therefore, a mere outline for others to comment upon.

G. M. LINZELL (Major), M.I.O.B.
40, Chiswick Common-road, W.4.

BUILDING RESEARCH

B.R.S. Report for 1947

THE work carried out by the Building Research Station during 1947 is reviewed in "Building Research, 1947," published on August 9, for the D.S.I.R., by H.M.S.O., price 2s., by post 2s. 2d.

In the first part of the report the Building Research Board records the outstanding features of policy and programmes during the year. Attention is drawn to the fact that the Station's present concentration of effort on urgent short-range problems cannot be continued indefinitely without seriously affecting the basic and more fundamental research on which short-term work ultimately rests. Mention is made of two steps that will help the Station to take account of local experience and practice—the decision to open a branch of the Station in Scotland, and the appointment during the year of 47 honorary observers in different parts of the country. The second part of the report surveys progress on the main items of the various programmes, together with references to the results that have been published during the year.

Building Materials.

The work on building materials included investigations of the possibility of using pulverised fuel ash in brick manufacture, and of using waste burnt shale from colliery dumps as aggregate for concrete. Further investigations were carried out on the manufacture and properties of aerated (cellular) concrete, and trials made of paints and colour washes that might be suitable for use on Fletton brickwork. An examination was made of experimental samples of building boards containing straw, a material of which a large surplus exists, and work on the properties of flooring materials started by investigating the pressure exerted by the human foot during the various stages of a walking step.

Building Construction.

On the subject of building construction, plans are described for full-scale investigations on structural means of reducing sound transmission, involving the erection of three small blocks of flats at Abbots Langley. The programme of work on foundations for houses was continued, and included tests on the use of short piles, cast *in situ* in hand-bored holes, as house foundations on clay sites. An analysis was made of the quarter of a million recordings of data obtained during the time and method study of bricklaying on the Abbots Langley experimental building site, and a report on the results was prepared for publication. A considerable amount of work was done on the strength of bridges, and a formula was produced on which a higher value of a permissible stress could be adopted for cast-iron girder bridges in certain cases. An experimental study was made of the behaviour of concrete walls under distributed and concentrated compressive loads, and further studies were made on the design of concrete railway sleepers.

Soil Mechanics.

In the soil mechanics laboratory, test results on the load-bearing capacity of the soil for foundations of large structures showed that modifications were necessary to existing theories for footings below the surface; and further studies have been made of the phenomenon of electro-osmosis in soils.

Efficiency of Buildings.

Investigations relating to the efficiency of buildings occupied an important place on the Station's programmes. The full-scale heating trials previously reported were continued and greatly expanded, both in the eight houses at Garston and in the 20 houses at Abbots Langley, and plans were made for equipping the houses at Abbots Langley with automatic recording instruments, so that tests would be continued with the houses occupied and without interfering with the normal living routine of the occupants.

The work on lighting included a study of the problems involved in the reconstruction of part of the National Gallery, and the initiation of work on the colouring of industrial machines and workrooms. Throughout the year the Station continued to devote a great deal of effort to the work of the Codes of Practice Committee, and to active participation in the preparation and revision of British Standards for building materials.

COLONIAL DEVELOPMENT

Rhodesia Prepares Four-Year Plan

IN a recent budget speech, the Southern Rhodesian Minister of Finance referred to proposals for the expenditure by his government of a total of £65 millions over a period of four years. This sum, which he said was considered to be an irreducible minimum for the continuation of a balanced development in the colony, excludes the requirements of the municipalities of Salisbury and Bulawayo.

The programme he outlined was as follows: Over £22 million to be spent on government departments during the four-year period, including a £7 millions or more allocation for communications, £6 millions for agriculture and irrigation; £1,600,000 for native affairs; and £4 millions for government buildings.

Public utility expenditure will require £16½ millions of which amount £5 millions has been allocated to the Electricity Supply Commission; £4 millions, provisionally, to the Rhodesian Iron and Steel Commission on the assumption that the quadrupling of the Que Que plant (recommended by the Development Co-ordination Commission) would be put into practice; and £4 millions to the National Building and Housing Board, on the assumption that their task would be completed by March 31, 1951, and that by that date normal building methods would be adequate for the colony's needs. Other allocations will be made to the Cotton Research and Industry Board, the Maize Control Board and the Cold Storage Commission. A further £4 millions has been allocated to local authorities, excluding those of Salisbury and Bulawayo. An expenditure of at least £20 millions is envisaged for additional capital equipment for the Rhodesian Railways, which also operate in Northern Rhodesia and were taken over by the Southern Rhodesian Government in 1947.

Port of Chittagong.

The development of the Port of Chittagong, in East Bengal, has been under consideration since the establishment of Pakistan. Most of the works in the port covered by the immediate plan have been completed, and the improvements made are reflected in the increased tonnage handled. The port handled an average of 55,400 tons per month during the six months ended February, 1949. The figure for February, 1949, was 64,674 tons as against 28,900 tons per month during the six months immediately after partition. Steps have been taken to see that the long-term plans for the ultimate development of the port are prepared and implemented without any avoidable delay.

Other Projects.

A Ten-Year Development Plan for improving the economy and social services of the Seychelles was formulated in 1947 and approved by the Secretary of State for the Colonies. Despite difficulties and delays in obtaining essential materials such as cement, steel, and water piping, and in spite of a shortage of supervisory staff, good progress was made in 1948 with the implementation of this development plan, and with the general economic development of the Islands.

Boys' secondary education is provided for on the Islands by the Seychelles College, and in 1948 the first portion of the new school buildings was completed. Secondary education for girls is provided at the St. Joseph's Convent School in Victoria. Primary school accommodation was increased by the completion of the St. Paul's Primary School for girls in Victoria.

At the Carnegie Institute and Library in Victoria reorganisation and decoration and repair work have been carried out with the help of a generous grant from the Government, and the Anglican Mission has constructed a parish hall where public discussions, concerts and other entertainments are held at frequent intervals.

In Malaya, where a new university is proposed, the acting director of education stated recently that the capital cost of the building programme is estimated at £3 millions spread over ten years in addition to which a recurrent expenditure is expected to amount to £600,000 per annum over the ten-year period.

Building projects of a different kind are to take place in Nigeria where the Nigerian Railways are planning the reconstruction of 18 stations, offices, carriage sheds and signalling installations.

OBITUARY

W. H. Nicholls, F.R.I.B.A.

WE regret to record the death, at the age of 74, of Mr. William Henry Nicholls, F.R.I.B.A., formerly consulting architect to the Madras Government. Mr. Nicholls resigned from the R.I.B.A. in 1929.

THE ORGANISATION OF BUILDING FIRMS

The fifth in our series of articles on the organisation of building firms gives a comprehensive description of the administrative organisation of a Midlands firm employing about 1,000 men—a figure stabilised after a considerable increase during the war years.—ED.

5.—A Large-scale Firm in the Midlands

THIS particular firm was established 65 years ago and has been a private limited company for the past 25 years. It is controlled by six working directors, with a qualified chartered accountant as secretary.

The company undertakes all classes of constructional work, general contracting, civil engineering (principally roads, sewers and reinforced concrete work), local authority and private enterprise housing, and also a busy jobbing and maintenance section. It also maintains a thoroughly modern, well-equipped joiners' shop and mill, organised for mass production of joinery as well as for highly finished bank fittings and other cabinet work. In addition, a small but well-equipped stonemasons' yard is established.

Both these departments cope with the firm's requirements as well as produce for the needs of other contractors.

The number of employees during the war years rose to about 3,000, but this is now stabilised at about 1,000 men of all trades. The company employs its own workmen and plant for the execution of all site works, including heavy excavation, earth moving, etc., all types of concrete and reinforced concrete work, brickwork, masonry, carpentry, plumbing, gas fitting, painting and decorating, and part plastering and floor laying.

Roof covering, plastering, glazing, wall and floor tiling, electrical work, heating and other specialised trades are invariably dealt with through sub-contractors. The firm has excellent connections in this respect and is thus able to ensure high service and efficiency throughout.

Operations have gradually been extended to a radius of 200 miles from headquarters. Values of contracts undertaken vary, the maximum to date being £1,250,000.

The capacity of executives, administrative and general supervisory personnel is expanding steadily; so, too, is the range and style of equipment and plant.

Joint Managing Directors.—The senior is chairman of the company. They decide on general policy and briefly examine incoming inquiries and bills of quantities before they are passed to the estimating staff with appropriate instructions. Major tenders, when prepared, are also examined by them and any politic adjustment made before final approval for submission.

Site visiting is as a rule infrequent, but one or both personally watch operations when circumstances demand, such as dangerous work, complicated construction, or when special conditions call for high level advice and instruction. This ensures the fully efficient service of the firm as well as affording support and invaluable example to outside supervisors and foremen.

Senior personnel are encouraged to bring their technical and other problems before the managing directors. Advice is given on matters of policy, interpretation of quantities and the Standard Method of Measurement, difficulties with architects, surveyors, clients, sub-contractors, etc.

The managing directors are particularly concerned with negotiations for and the signing of contracts, the interpretation of contract implications and also major claims in contract settlements. They are also largely responsible for the important maintenance of social contacts from all desirable aspects, and in addition conduct the firm's representation on Federation and trade association matters.

Junior Directors.—These number four in all, two of them being full members of the board and the others being departmental directors holding directorships in subsidiary concerns, but their duties being mainly concerned with the parent company. They sit at all board meetings dealing with administration of the firm's business but do not attend shareholders' or private business meetings.

Each director has a series of individual responsibilities, the main sectionalising being:—(1) General contracting and civil engineering; (2) Housing: contract and speculative.

The two full directors share the supervision and performance of general contract and civil engineering work, each being directly responsible for a series of individual contracts.

They attend all important site meetings and maintain requisite contact with architects and clients. They are responsible for all correspondence for their particular contracts, either direct or through the respective surveyors and, of course, ensure the proper liaison of all departments to effect smooth and efficient running of each job.

Housing, both contract work for local authorities and private enterprise development, is kept as a separate department and is controlled by the two departmental directors referred to, answerable to the joint managing directors. Apart from sharing in performing the general policy of the firm, using the general office organisation and supporting departments, they are dissociated from the contract building side.

One is responsible for the administrative side, negotiation, tenders, contract documents, surveying, final accounts, correspondence, etc., and general performance of the department, and the other is responsible for the outside supervision of the contracts and the efficient execution of the works and liaison with all serving departments between headquarters, shop, yard and site.

Generally.—At least one director personally supervises and examines incoming correspondence and directs its sorting and distribution to the appropriate departments. Before dispersal, a "precis" of all important communications is made. Copies of this are circulated to directors and senior executives, who are thus enabled to keep posted with the current business within the firm.

Each director, including the managing directors, has further specially allocated responsibilities within the firm. For instance, one supervises all important estimates and final accounts before submission. He has major influence over surveyors' procedure, application of incentive schemes, etc. Another is responsible for purchase and supervision of all mechanical and non-mechanical plant through the plant manager. Another also deals with timber licensing and all timber purchases, and controls the firm's joinery works. The drawing office, records, library, etc., are watched by other directors. Other responsibilities are described in the following departmental functionings:—

The Secretary.

Clerical and General Administration.—Administrative matters are almost completely dealt with from the head office. Whilst this practice naturally entails a larger centralised staff, it enables all departments to be adequately "manned" and consistently up to date with the system of costing and accounting. Whilst strongly departmentalised, the organisation is sufficiently elastic to ensure that level output is maintained and records are as tightly up to date with works progress as is possible.

Overheads may appear costly, but the expenditure is considered well justified by the advantage of regular uniform costing data and the promptitude afforded in supporting submission of final accounts despite the complications of present-day settlements.

The Secretary attends all board meetings and is responsible for the submission of consequent minutes and the preparation of all confidential reports as required by the directors, as well as the quarterly cost returns and interim financial statements. He, of course, maintains close association with the auditors in the preparation of annual balance sheets, which are invariably available within five weeks of the end of the financial year. He approves the payment of all accounts, excluding sub-contractors and nominated suppliers, and is one of the signatories to all trading cheques.

The Secretary engages all clerical and kindred staff, including site clerks, etc., and he is largely responsible for the efficient performance of general office routine. This embraces mainly the following departments:—Accounts, Costing, Wages, Insurances, Staff and Personal Salaries and Records, Cashier, Bookkeeping and Machine Accounts, Comptometers, Telephones, Inquiries, Stores, Welfare and Canteen, etc. Many of these departments work under the immediate supervision of a senior or departmental head.

All items of cost from purchases, stock dispersal, wages, plant, transport, insurances, salaries, etc., to petty cash are, after checking, passed through to the machine accounting department where they are analysed and charged to the various contracts.

Accurate costs accounts are prepared each quarter with statements of profit and loss for the period against close valuations. The results to date of every individual contract are given with details of overhead expenditure and its proportionate percentage of "on charge" based on total turnover.

The details of these reports not only afford a highly informative picture of operational results to the directors and supervisors, but also provide invaluable guidance for tendering purposes.

The costing system enables a "temperature costing" of any one particular job at short notice and the detailed analysis provided enables prompt action to be taken by quickly discerned leakages or wastage.

The whole accounting system being kept to such a close day-by-day posting enables the firm to adhere rigidly to the sound principle of payment of all trading accounts on the first day of the month as due. This affords unassessable value and economy in securing first-class service from suppliers at most favourable terms.

A generous profit-sharing scheme is operated for the benefit of salaried staff (including top-grade foremen). A fixed percentage of the audited profits of the

company is credited to a "pool." A portion of this is shared to the individual employees at Christmas time in strict proportion to their salaries. The remainder is allocated in "merit awards" in addition to members of the staff deemed by the directors as being worthy of the extra participation.

A properly organised Superannuation Scheme has been in being for the past twelve years and this is managed by a committee representing all ranks of employees with a director as chairman.

The same committee controls the dispersal of the firm's Benevolent Fund, which is fed partly by contributions from the company and results of social events and the like.

Estimating.

At least three surveyors are continually engaged with preparation of major estimates or tenders.

On receipt of bills of quantities they institute preparation and despatch of all inquiries for the appropriate materials, sub-trades, etc. They inspect the architects' drawings and visit the site of proposed operations, often accompanied by a director if it is an important job.

Quantities are then fully priced. Extensions, totals and summaries are carried out by comptometer operators and double checked. The estimators maintain close co-operation, not only between themselves to ensure a consistent policy, but also with the Buying Department and Cost Offices for essentially up-to-date data.

The firm's records and labour costs analyses facilitate close, even estimating. Invaluable factual figures are secured from bonus results which emanate from all jobs and the works.

The estimators also compile the labour targets for the incentive scheme.

On completion of a tender it is submitted to one of the managing directors, together with details of clauses or conditions which are not in accordance with local custom, Standard Method or accepted procedure. None but a director is permitted to adjust or modify an estimate or tender after preparation, if it is required to do so before submission.

Surveyors.

A staff of eight to ten senior and junior surveyors is maintained. The number of contracts for which each is responsible varies according to the size and style of the work and, of course, dependent on the extent each is involved with settlement of accounts. On being allocated to a new contract the surveyor has the contract drawings registered in the drawing office. He abstracts from the Bills the quantities of materials required, checking as available from the drawings. These are charted and requisitioned from the Buying Department.

Inquiries for sub-contracts are despatched to selected firms. The controlling director decides on the subsequent acceptance.

All routine correspondence in respect of his contract is dealt with by the surveyor, but important letters are dictated by or in collaboration with the director, who also peruses all correspondence of technical and surveying staff, before mailing.

The surveyors are also largely responsible, in conjunction with the estimators, for setting bonus targets or securing data from sites for targets difficult to predetermine.

They work in conjunction with the quantity surveyors' or architects' representatives with periodical measures on site and for preparation of interim valuations and certificates, also for certification of payments due to sub-contractors and nominated suppliers.

Printed forms for recording this work are completed with each payment and all relevant details and cumulative totals, giving "at sight" reference to the financial position of each contract.

The surveyors are responsible for the completion of the final accounts, including all variation claims. Difficult or contentious claims are discussed thoroughly with the controlling director, before inclusion.

Variations and claims are also explored thoroughly with the agent or foreman for the job, and the surveyors have freedom to visit sites at their discretion, to keep in constant touch with all angles of the work and facilitate a full compilation of dues in the final account. It is found that the regular visits of a surveyor to a site is a further covering liaison between job and office.

Each senior surveyor has the assistance of a junior in training. These youths are elevated from the clerical or administrative side after graduating through a period in each of the other departments, and on achieving sufficient advancement in technical school tuition.

Finally the surveyors have access to all files, correspondence, drawings, reports, cost sheets, account cards or invoices, etc., for any job at any time. The general knowledge and information thus available further inculcate the vital confidence and interest necessary to the spirit of the firm in its important technical staff.

Buying.

The buyer prepares and despatches all inquiries for materials requisitioned by directors, estimators, surveyors, or site agents and foremen.

Salesmen and travellers are interviewed by buying staff, who also collect and submit samples to appropriate parties. This department also has care of sample room. Extensive card index records of prices are maintained, fluctuations being posted with day-to-day accuracy. This department issues all orders other than sub-contracts. Copies are retained on the files in the Buying Office, Cost Office and contract file. A further copy is sent to the foreman and retained on the site office file. Any "bulk buying" is performed only after due consultation with a director. Essentially the buyer maintains close liaison with all "consuming" departments, including office and works stores.

The plant manager has control of all mechanical and non-mechanical plant and equipment, including all repairs. He supervises the garage (cars and lorries), repair workshop, including blacksmith's and welding plant, directing all mechanics, machine operators and drivers and attendant labour.

A very extensive range of heavy plant is maintained, excavators, scrapers, dumpers, tractors, etc., concrete mixers of all sizes, hoists, elevators, pumps, etc., and a fleet of some 30 lorries of various capacities. These are controlled by a transport manager.

Transport requisitions have to be made 48 hours in advance of requirements except for emergencies, and 7 days' notice is aimed at for all other classes of equipment. Scaffolding and small tools also come under his direction, as do site offices, hutting, signboards, etc. He is responsible for the smooth running of all equipment on sites, and has to maintain continual contact with operations in all parts. He is permitted to hire out any unit of mechanical equipment not in regular use.

A small office staff compiles records of classes of building and civil engineering equipment and ensures that all modern advances are brought to the notice of the controlling director. Requisitions for new plant or machinery of a major nature are submitted to the board of directors for authorisation.

Welfare and Personnel Manager.

This person is also the Accident Prevention Officer. His duties cover a wide field, but they are all akin to the welfare of the employees and of the firm itself.

It is his responsibility to see that all sites are properly provided with canteen facilities and the efficient running of same, and deals with all Food Office negotiations in this connection. He is entitled to visit all sites at will to see that all the requirements of the Factory Act are fully complied with and to ensure particularly that safety regulations are properly observed.

He is in regular contact with the Ministry of Labour organising the labour requirements for the various contracts and interviews many of the applicants who apply at head office. He is chairman of the firm's social and sports club and is also responsible for the proper care and management of the sports ground and pavilions, taking an active interest in the football, cricket and tennis teams and all the sporting activities.

Being a member of the Benevolent Committee as well as the Superannuation Committee, it is also his duty to keep in touch with all accident, sickness and hardship cases.

He has to maintain a watchful eye on the welfare of apprentices in particular. Full details of each youth are filed by him and records kept of interviews with parents, results of reports received each month from respective foremen and the general progress of every lad is charted carefully—attendance, ability, character, etc. All apprentices are permitted one day per week to attend technical college and their periodical reports are closely observed.

Prizes are awarded each year for the best lads in the different categories, these being based on work on site or in the office and examination results at technical college. Many of the firm's most reliable foremen served their apprenticeship with the company.

Site Agents and Foremen.

Staff foremen are graded I, II, and III, and receive a fixed salary according to grade. They participate in many of the amenities available to the office staff and in the firm's superannuation scheme.

They are all entitled to the builders' week's holiday, and grades I and II have a further week at a time suitable to the operations of their particular job. They participate in the profit-sharing scheme according to grading and also any special award for merit.

Grading is based not only on age and service, but also on stability combined with ability, and "up-grading" is consistently striven for. Rated deputies and charge hands likewise compete to earn elevation to "the staff" and a graded classification. The foreman's duties are typical and are not laid to any unorthodox lines.

The smallest contract has a properly equipped foreman's office, which is invariably provided with a telephone, a policy which pays good dividends in convenience to builder, architect and surveyor alike, yet its use is not permitted to let the fore-

man grow lax with his anticipation of requirements. He is permitted to make direct contact with most suppliers in the interests of the job.

He submits a daily report to head office on a special form on which he records all visitors, architects' and clerk of works' instructions and variations, number of men, sub-contractors, weather conditions, etc., and details of any need for plant, supplies or information which may be holding up progress. This is posted to head office each evening, and during the morning of its receipt it passes from stores and transport departments to the buyer and ultimately to the surveyor for the job who duly files, all having noted the information particular to their respective interests.

A clerk is provided on all jobs with 30 men or more, to assist the foreman mainly with time keeping, preparation of site records, bonus calculations, materials, etc. Each week the site returns to head office all delivery notes with daily delivery record of materials received, time or pay sheets, daywork sheets, mechanical and various plant returns, new starters' data, insurance cards, sub-tickets, etc. Wage sheets are not prepared on site, except on out-of-town contracts.

On the larger jobs, the foreman is further assisted by checkers and storekeeper, who are in turn responsible for all stock and material returns for the surveyor's interim valuations.

There is a Foremen's Committee which meets at head office once a month. It is re-elected each year. This committee submits recommendations for improvements in organisation, employees' grievances or difficulties, or suggestions re plant and equipment, etc. It has proved an excellent further link for the directors with the operative personnel.

The foremen are encouraged to inspect the work on the contracts of other foremen when it is of an informative or instructive character.

The directors hold conferences of all graded foremen periodically to discuss with them the latest trends of the industry and general matters in respect of the policy of the firm and its current and prospective operations.

Small Contract Work and Jobbing.

This is run by a more or less self-contained department with an outside supervisor at its head, responsible to the board of directors. It has a small surveying staff dealing with all inquiries, preparation of quantities and estimates, final accounts, etc. The operatives engaged are specially selected for this type of work, and are constantly employed from job to job. They are rarely engaged on large contracts or on housing work; whilst being necessarily adaptable men, they still do not fit in happily with the set work of larger operations.

The work undertaken by this section of the business is confined to small estimates, with a very small percentage of daywork. Quantities are prepared for each small contract, and the estimator uses two pricing columns—one for net labour costs (this also forms target for bonus)—the other for net material or sub-contractors' cost. Overheads are added to labour only, and a percentage for profit on the whole. This department forms a particularly useful part of the framework of the organisation.

Staff Training.

A number of juniors are engaged in all head office departments. There is now no articled pupil scheme, it being preferred to persevere with youths who first prove their aptitude to the trade.

They are permitted to attend technical college one whole day per week as well as evening classes, and invariably their fees are paid by the firm. From this "pool," promising youths are advanced from routine clerical work, first to the drawing office and then to sites, assisting with bonus and valuation measurements, and then are attached as assistants under the surveillance of senior surveyors.

It is found that they cannot be wisely advanced to that position until they have at least reached their third year at "tech." By this process, a steady flow of good material is available to the surveyors, and the backbone of the firm kept stiff with excellent well-trained technical staff.

Some, of course, find accountancy and clerical work more to their liking, and have proved to be useful additions to the various non-technical departments. At present, the calls of military service interrupt the progress of the scheme, but experience shows that most of the worthwhile youths do not suffer by the enforced period of disciplinary change.

Library.

There is an excellent library of some 300 to 400 books and publications maintained at head office. These are all devoted to the building and kindred trades, architectural and surveying profession, and various specialist subjects. All standard handbooks are kept and new books are added regularly.

A printed catalogue is issued to all staff employees and apprentices, and books can be borrowed for a period not exceeding one month. Trade journals and periodicals are circulated through the staff after perusal by the directors.

Secretariat and Typists.

The managing directors each have their private secretary, and further secretary-typists share the work of the other directors. A fairly large typing office is maintained, but the pool system is not fully adopted, one typist probably operating to the requirements of two or three surveyors. Most of the other departments also have their work done by individual girls. However, any rush of work in a particular department is readily spread. A number of recording machines are available, and prove particularly useful for "after office hours" disposal of arrears of correspondence, reports, etc.

All letters are sent out over the company's signature, but must be initialled by the persons dictating.

They are all perused and approved by a director before passing to the mailing office.

Various Offices and Departmental Details.

Much more detail could be given of the foregoing departments and the many subordinate offices which form essential links of the organisation, and the carefully planned but easily worked system. Each department could provide matter for a specialised article in itself—among them the filing system, the drawing-office procedure and its printing and photography apparatus, the duplicating and rotaprint department which produces all the printing of the firm's stationery, its many standard forms, etc. Every effort has been made to be self-contained and as independent as possible.

Much could be described as to the mechanism of starting a new contract and the general method adopted for conducting it through to completion with the many tried and tested actions for meeting "routine" contingencies.

For the benefit of all executives and departmental heads, a comprehensive manual has been prepared. This comprises a bound book of some 70 quarto pages which gives full details and instructions as to the designed procedure for every department or section of the business. It is an excellent book of reference to all who participate in the administration of the business.

*** The next article deals with the development of a firm in the Southern Counties from a small to a medium-sized business.

DEVELOPMENT OF ROMNEY MARSH

More Houses for Agricultural Workers

THE Draft Report of the Agricultural Land Commission on the Romney Marsh Investigation has been issued to all owners, lessees and occupiers of agricultural properties on Romney Marsh.

The Commission's principal recommendations are as follows:— (i) Ley farming is the proper system for general adoption in Romney Marsh to ensure full and efficient use of the land for agriculture: although intensive arable farming and market gardening should not be discouraged where conditions are suitable; (ii) In the national interest there should be maintained in Romney Marsh a minimum tillage area of 20,000 acres, which, allowing for the area necessarily under temporary grass, will give an arable acreage of 25,000; (iii) An additional permanent agricultural labour force of some 90 workers will be necessary; (iv) Sixty-seven houses will be required for the additional labour force, and these should be provided by local housing authorities; (v) The 50 houses estimated by the Kent Rivers Catchment Board to be required for the 75 additional permanent drainage workers should be sited in existing towns and villages, and the Catchment Board should pursue this matter with the local housing authorities; (vi) Fixed equipment should be provided as follows:—(*a*) 45 implement sheds, (*b*) 30 stores, (*c*) four miles of new farm road and the improvement of just over one mile of existing road; and (vii) The public services of water and electricity should be extended as quickly as circumstances permit, but priority should be given to the extension of the water mains recommended.

The Draft Report also contains the following paragraphs:—

"In our view, the occupiers in the Marsh can reasonably be expected to adopt a ley farming system with a minimum of 20,000 acres of tillage. The cottages required for the additional agricultural workers can be provided by the housing authorities who have already intimated their willingness to co-operate by building the required number. The fixed equipment recommended will involve landowners in the Marsh in some expenditure, but we consider that they can reasonably be expected to provide it, bearing in mind the facilities open to them for obtaining loans for capital works of this nature and the provisions of the Finance Act, 1945."

Housing Priority.

Southport Corporation Finance Committee has decided that houses shall take priority over school building. The Education Committee had proposed to spend £109,000 on extensions to the technical college, but the Town Council sent the proposals back for further consideration on the ground that houses, being a more vital need, should come first.

INQUIRY BUREAU

Copyright of House Design

Q.—The information given regarding copyright in your issue of April 15 (page 466) is of considerable interest and an opinion on the following would be greatly appreciated.

Before the war I specialised in the erection and sale of nearly 200 houses of my own design. During the war several in a group were totally destroyed. After the war five of the seven owners called me into consultation with a view to rebuilding and it was agreed by all parties that, for a suitable fee from each, I should prepare plans and specifications and negotiate with the local authority for building licences and the War Damage Commission for agreed costs.

Four of the five owners honoured their verbal instructions, entered into contracts and I rebuilt the houses.

The fifth owner, after receiving plans and interim correspondence and permitting my services to proceed up to and including agreement of cost with the Commission and the actual issue of building and timber licences, repudiated his instructions in favour of one stated to be a quantity surveyor and to whom, without my knowledge or consent, he sent my plans to be retained for six weeks before return to me.

The house has since been rebuilt under the supervision of the quantity surveyor by another firm.

Here, presumably, if I created the design I am the designer in possession of the copyright, since I continued to build houses of the same design after selling the house in question and retain the plans as part of my stock in trade.

I question that, upon reaching the point where rebuilding became necessary, it can be assessed as equitable that another person, after being in possession of plans drawn by me, shall prepare a duplicate set identical in all essential respects to reproduce a house as before.

This situation, besides denying me payment for services rendered, has led to further disadvantages in which the quantity surveyor is involved, for whilst I hold written instructions from the owners of a pair of houses (or rather the sites) adjoining to prepare plans, etc., in accordance with another design of which I possess the copyright, he has contrived to produce a result similar to the first. Building and timber licences were issued and prices agreed with the Commission; a building contract duly signed by one owner but not the other who sold his interest in the freehold to the quantity surveyor; these services and contract remain unhonoured. Maybe the plans the latter will prepare will be the result of information gained from plans deposited by me with the local authority in 1935 when the houses were built, or from similar houses now standing, or even more recently prepared plans in connection with similar houses which I have rebuilt since the war, but in any event traceable to the original copyright design which I prepared in 1933.

"REYNARD."

A.—A legal correspondent writes:—

I have read your correspondent's letter with interest combined with sympathy. I am assuming, and I want to make that quite clear, that no steps have been taken with regard to possible litigation, in which case I could not concern myself with the matter at all.

(a) Commenting generally, and on what I am told, it appears to be clear that "Reynard" has not parted with the copyright of his plans, and that any unauthorised use of them by the fifth owner or his assignee or other person, without consent or compensation, would give him a right to bring an action for damages on that score.

(b) It further appears that, under the original contract, "Reynard" could also sustain an action for damages, inasmuch as he has been deprived of certain financial advantages that were intended to follow from that agreement. (I note that the original agreement with the five owners was verbal, and verbal agreements should, as a rule, be avoided. In this case, however, it should be quite capable of proof.)

(c) "Reynard" must carefully consider the matter before making a decision in regard to taking legal action, remembering that as regards (a) above, any damages awarded would not be large as the question of assessing the actual damage caused to "Reynard" is a matter of difficulty.

LIGHTING OF BUILDING INTERIORS

The I.E.S. Code

[From a Correspondent]

THE I.E.S. Code for the Lighting of Building Interiors (known more briefly as "The I.E.S. Code") was first published as "Recommended Values of Illumination" in 1935. The Code is a set of rules and recommendations for good interior lighting and is intended for the reference of those concerned with lighting practice and as a guide to the user in stating his lighting requirements. A new edition has now been published.

The Illuminating Engineering Society, by whom the Code is published, is an impartial body interested in lighting matters and whose membership includes representatives of the lighting industry and users of light. The recommended values of illumination are in general lower than the levels recommended in some other countries as in this country it has yet to be proved that there is any advantage to be gained by raising levels above a certain limit.

Apart from changes in make-up the most significant change in this new edition is in connection with the illumination charts, which are now printed in colour. By printing in colour on a graded background the effect of difference in contrast between objects of various sizes and background and the necessity for higher levels of illumination under conditions of poor contrast are shown.

Certain amendments in the light of recent knowledge and research have been made to the schedule of recommended values of illumination. In appearance the Code has been considerably improved, being now printed on art paper with a stiff cover. A useful addition is the list of British Standard Specifications on illumination and lighting fittings.

The Code has already proved its value in improving the standard of lighting in industry and elsewhere to the benefit of employers and employees and its recommendations are now generally accepted by industry and Government departments both in this country and abroad.

The recommendations cover both natural and artificial lighting for all types of buildings used for all kinds of activity—industry, schools, offices, stores and shops, sports, homes, etc. As lighting is of importance in each one of these activities the I.E.S. Code should be studied by all who are interested in lighting for whatever purpose.

Copies of the Code may be obtained (price 2s. 6d.) from the Illuminating Engineering Society, 32, Victoria-street, London, S.W.1.

THE PLANNING ACT

Request to Minister for More Time to Answer Optional Questions

THE Institute of Registered Architects has addressed a letter, signed by Mr. William H. Scanlan, the President, to Mr. Lewis Silkin, M.P., Minister of Town and Country Planning, requesting an extension of time for the answering of optional questions 26, 27 and 28 on Form S.1, in connection with the Town and Country Planning Act, 1947. The letter states:—

"As matters stand at the moment, it appears to be impossible for practitioners to complete this work in conformity with their professional responsibilities by the specified date, October 31, 1949.

"If the present date is adhered to, it is feared there will be a tendency for covering figures to be inserted in a large number of cases, as, in the short time at present allowed to practitioners, it will be extremely difficult to give that careful attention necessary to prepare the detailed calculations that are essential in these cases. In this event it is certain that the work of the Valuation Department must, of necessity, be rendered more onerous and complicated, and that an additional burden will be placed on an already overloaded Department. The advantages of an extension of time, both to the Central Land Board and the Valuation Department, would seem to be obvious.

"The principal reasons why this Institute suggests that practitioners are faced with what appears to be an impossible task are as follows:—

(1) It is difficult at the present time to obtain the requisite volume of skilled assistance by qualified surveyors.

(2) Existing staff in practitioners' offices will be temporarily depleted owing to the holiday season, which coincides, to a great extent, with the period in which valuations must be made under the present time-limit. In this connection, it must not be overlooked that the situation has been aggravated by the fact that holidays have already had to be deferred in order to cope with the work of submitting Forms S.1 by June 30 last.

(3) Owing to the pressure of work involved in submitting Forms S.1, a great deal of other work in practitioners' offices has had to be put on one side, and, in consequence, has become seriously in arrear. This deferment cannot be prolonged further, particularly as time-limits are frequently involved in much of this other work.

"Other factors to be considered are:—

(a) Reports from members indicate that the heavy burden of work resulting from the submission of Forms S.1 has caused delay on the part of the War Damage Commission in dealing with war damage claims which, it is presumed, has been caused by the transfer of staff to the Central Land Board. It is seriously suggested that adherence to the present time-limit of October 31 next may further aggravate this state of affairs.

(b) Unless the time is extended it is feared that the number of appeals to the Tribunal will be very considerably increased.

"In conclusion, this Institute is of opinion that failure to extend the time may adversely affect the interests of claimants."

A copy of this letter has been sent to the Central Land Board.

INCREASE IN STANDARDISATION

B.S.I. Annual Meeting

AT the annual general meeting of the British Standards Institution, held on July 27, the president (the Rt. Hon. Lord McGowan, K.B.E.) referred to the greatly increased interest during the past year both by industry and government in the extension of voluntary standardisation on a national basis.

The investigations by the committee for standardisation of engineering products under the chairmanship of Sir Ernest Lemon, set up by the Ministry of Supply, had substantiated the view, long held by British industry, that the principles under which the B.S.I. worked were effective and could be considerably extended, said Lord McGowan.

The Anglo-American Productivity Council, he continued, had recently stressed the importance of standardisation and simplified practice and he believed there was probably no more effective means for increasing productivity.

Another significant development during the past year had been the co-operation of the nationalised industries with the B.S.I. and the increase in the collaboration amongst large industrial users with a view to assisting manufacturers to reduce the number of types and sizes.

This progressive standardisation, the president declared, would greatly assist the economy of the country by enabling manufacturers to introduce longer runs and better production methods in their operations.

In conclusion, Lord McGowan said that the B.S.I. was the pioneer national standards organisation and collaborated with 34 other standard bodies overseas, and with the continued growth in the number of export and import controls exercised by various countries, national standards were becoming increasingly important.

Sir William J. Larke, K.B.E., was elected the new president of the Institution.

B.A.T.C. SCHOLARSHIPS

Minister Meets Donors

THE Minister of Works, the Rt. Hon. Charles W. Key, M.P., held a reception at Lambeth Bridge House on August 5, to give the City Companies and the Building Industry Federations who had provided scholarships for 1947 and 1948 an opportunity of meeting the apprentices who had received their awards.

The Minister was accompanied by Sir Nicolas de Villiers, a Deputy Secretary of the Ministry of Works. In addition to Sir George Gater, Chairman of the Building Apprenticeship and Training Council, Sir Graham Savage and other members of the Council were present. Representatives of the Worshipful Company of Carpenters, the Worshipful Company of Tylers and Bricklayers, the Southern Counties Federation of Building Trades Employers, the National Joint Council for the Building Industry, the London Master Builders' Association, the National Federation of Building Trades Operatives and the National Federation of Building Trades Employers attended the gathering.

The eight scholars are now receiving three-year degree or national diploma courses in building at the Manchester and Cardiff Universities and the Brixton School of Building.

M.O.W. MOBILE LABOUR

Cost of Houses

THE Minister of Works has given some interesting details of the average cost of houses built by his mobile labour squads. They are principally used for building houses for prison and forestry officials, and it is claimed that they are only called in when and where local labour is inadequate. According to an official reply given in Parliament, the average cost of a house built by the squad in the last six months of 1948, was £1,979. This was based on 293 houses. The cost has risen this year to £2,099 per house, but the number of houses actually built has not been revealed. It is, however, known that these figures include the cost of site clearance, preparation work, foundation, superstructure, electrical and gas services. It also includes the transport charges of moving the Ministry of Works operatives and providing them with accommodation in camps. The figure does not include roads and main sewers, nor the "departmental agency charge." This charge is levied to cover salaries of the technical, supervisory and clerical staff at the mobile labour force headquarters, sites, and depôts. The Ministry of Works, states a correspondent, have declined to give details of the exact amounts of these overhead charges, and it is expected that the Minister will be pressed to give further information when the House of Commons reassembles after the recess.

Hamstead Brickworks Reopened.

The Hamstead Colliery Brickworks were recently reopened by Sir Ben Smith, chairman of the West Midlands Coal Board. The brickworks were closed down 18 months ago owing to a surfeit of bricks in the country. Now production is to be resumed with a modern plant at the rate of 120,000 bricks a week. Later, production will be increased to 180,000 a week. The Coal Board have spent £5,000 modernising the brickworks.

ELECTRO-PLATING
BY A HOUSE OF UNRIVALLED EXPERIENCE & REPUTATION
Established 75 years

SILVER, GOLD & CHROMIUM
BRASS, COPPER, NICKEL & TIN PLATING
OXIDISING, LACQUERING & STOVE ENAMELLING
Repairs & Restoration

WE Specialise in replating
BUILDERS & ELECTRICAL FITTINGS
MASS PRODUCTION CAPACITY AVAILABLE
FOR PLATING & POLISHING NEW GOODS FOR HOME & EXPORT

JOHN WILKINS & Co. LTD.
231-243 ST. JOHN ST. CLERKENWELL
LONDON E.C. 1
phone: TERminus 2176/8

LONDON BUILDING APPRENTICES

An Athletic Meeting

THE third annual athletic meeting of the London Building Trades Apprentices Sports and Welfare Association was held on the Duke of York's Headquarters Territorial Association Ground in Chelsea on July 30.

There was a record number of entries and the many spectators who witnessed the events were able to enjoy an excellent afternoon's sport in fine warm weather.

The organisation of the meeting was excellent, the stewarding and judging efficient and the voice of Mr. D. E. Woodbine-Parish, the announcer, persuasive and compelling. Meetings such as this do much to foster a right relationship between masters and apprentices.

Major Leslie Shingleton, O.B.E. (President, B.A.S.A.), was present to welcome Lady Morrison, who had kindly consented to present the prizes to the winners and Lord Morrison, Parliamentary Secretary to the Minister of Works, who addressed those present at the conclusion of the meeting.

A vote of thanks to Lord and Lady Morrison was proposed by Mr. Nigel Hannen (President, L.M.B.A.) and seconded by Mr. V. Beacham (Vice-President, B.A.S.A.).

The "Delphine" challenge cup awarded to the Area gaining most points in the events open to B.A.S.A. members was won by Central Area No. 1, while the N.F.B.T.O. Shield awarded to the School of Building gaining the most points was won by the Brixton School of Building. The A.S.W. Challenge cup awarded to the B.A.S.A. member gaining the most points during the meeting was won by D. Griffiths (Central Area No. 1).

The results of the various events were:—

Senior B.A.S.A. Members.—100 yds.: H. Stiffell (N.E. Area). 220 yds.: H. Stiffell (N.E. Area). 440 yds.: D. Hosking (N.E. Area). 880 yds.: D. Hosking (N.E. Area). 120 yds. hurdles: D. Griffiths (Cent. Area 1). One mile: R. Johnston (S.E. Area). Long jump: J. Brandon (Cent. Area 5). High jump: G. Griffin (Cent. Area 1).

Junior B.A.S.A. Members.—100 yds.: P. Markworth (Cent. Area 1). 220 yds.: P. Markworth (Cent. Area 1). 440 yds.: D. Griffiths (Cent. Area 1). Long jump: P. Russell (S.E. Area). High jump: D. Chown (S.E. Area).

Students from Schools of Building.—100 yds.: J. Trendall (Brixton). 220 yds.: J. Trendall (Brixton). 440 yds.: N. Hurst (Brixton). 880 yds.: N. Hurst (Brixton).

The Tug-of-war and Inter-Area Relay Races were won by the S.E. Area.

Dublin's £4 Million Housing Plan.

Dublin Corporation Finance Committee has agreed to finance a £4,000,000 house building plan which includes new houses in the course of construction or in contemplation by the Housing Committee.

In addition, the committee has decided to seek a further loan of £500,000 to provide for advances to purchasers of houses under the Small Dwellings Acquisition Act. This sum will be in addition to the £700,000 which has already been allocated to purchasers. The total value of applications at present before the Corporation, or granted, amounts to almost £1,000,000.

The present building programme of the Dublin Corporation exceeds any ever before attempted. At present about 3,000 houses are either under construction or are about to be built.

CLINKER BLOCKS

Manufacturers' Meeting

THE poor quality of clinker blocks and the need for their improvement were referred to by MR. C. B. PHILLIPS, director of building materials, Ministry of Works, when he addressed a meeting of the Federation of Clinker Block Manufacturers on July 19.

Mr. Phillips said that a good clinker block had an excellent insulating value, and there was no doubt that if quality generally was improved and maintained there was a very big potential market, not only for use as partitions but also as a load-bearing structure, giving the added advantage of better insulation.

He continued: "I know that this product, being comparatively simple to make, invites price-cutting, hence poor quality; but our aim and yours must be to achieve and maintain a good standard, otherwise this type of block will fall into disrepute, which would be a tragedy for the industry as a whole, as it must inevitably affect the demand.

"Some twelve months ago the Ministry of Works decided to experiment with power-house clinker, which is, of course, the main source of supply, and we found on our preliminary investigations that the amount of burnable materials was surprisingly high, in some cases as much as 35-40 per cent. of the materials in the samples tested being combustible. Furthermore, this varied from day to day, indeed, in some cases, from hour to hour, and this varying quality was all mixed up in the storage hoppers or dumps adjacent to the power stations. No power station could guarantee supplies of clinker to specification, and it is obviously a matter which cannot be dealt with by any individual manufacturer."

Mr. Phillips said that a machine, which was an adaptation of coal-cleaning plant, had been evolved, and by means of an air blast directed on the material as it travelled on a conveyor, the unburnt material was separated and a very good inert clinker, well up to specification, had been obtained. Speaking about the marketing of clinker, he said the Ministry did not intend to enter into direct trading. Power stations themselves or private enterprise might deal with the whole business of cleaning, grading and marketing.

National Savings Week.

To focus the attention of the country on the vital contribution which the Savings Movement is making to the welfare of Britain and its individual citizens, and to increase the membership of industrial and other savings groups, a National Savings Week is to be held from October 22 to 29.

B.S. for Wood Doors, Frames and Linings.

The British Standards Institution has issued B.S.1567:1949, which deals with wood door frames and linings. It covers a range of frames suitable for external doors opening inwards or outwards, and also includes types with winglights. The range of internal door frames includes complete frames suitable for use in slab partitions as well as linings for use in brick partitions. The standard includes requirements for the construction of the frames and the priming of external door frames, unless the frames are specifically ordered "in the white." Copies of the standard may be obtained from the British Standards Institution, Sales Department, 24, Victoria-street, London, S.W.1, price 3s., post free.

BIRMINGHAM HOUSING SCHEME OF 500 STEEL-FRAMED DWELLINGS

BIRMINGHAM City Council on August 2, approved a proposal by the Public Works Committee to erect 500 steel-framed houses at a total cost of £717,750.

The committee reported that the tender for the supply and erection of the houses was £624,250—£1,248 10s. a house; that the estimated cost of site preparation was £93,500—£187 a house; and that the time quoted for the completion of the houses was 12 months.

MR. B. WATSON, who criticised the proposal, maintained that insufficient regard had been paid by the committee to the price of the houses, their standard and their future maintenance and repair. The price was £70 a house higher than would be paid for traditional type houses, he said, and the houses would have asbestos roofing, although the manufacturers of this covering, good for industrial purposes, had never claimed it was suitable for houses. The city needed houses desperately, but he did not think it needed them so desperately as to pay such a high price for them.

ALDERMAN J. WILLIAMS, supporting the proposal, said they would be good houses if looked after.

Cast Iron Sectional Tanks.

A British standard for Cast Iron Sectional Rectangular Tanks (B.S. 1563:1949) has been issued and is obtainable from the British Standards Institution, Sales Department, 24, Victoria-street, London, S.W.1, at 5s. a copy.

A DECORATIVE AND WATERPROOFING
TREATMENT FOR CONCRETE
CEMENT RENDERING
BRICKWORK, ASBESTOS, ETC.
"STIC B"
STONE COVERING

OTHER PRODUCTS
SEMI-STONE COVERING
PLASTIC PAINT
FLAT PAINT
DISTIC
(Washable Distemper)
TRANSPARENT
DAMPROOFING LIQUID

"STIC B" PAINT SALES LTD.
69, VICTORIA STREET, S.W.1
WHITEHALL 9958

HOUSING IN SCOTLAND

Building between March and June

NEW permanent houses completed in Scotland during June totalled 2,330, while the total number of new permanent and temporary houses and other family units of accommodation provided during the quarter March 31 to June 30 reached a total of 7,106, according to the latest housing return issued by the Department of Health for Scotland.

Of this total, 6,858 were permanent houses, compared with 5,675 for the same quarter of last year. Altogether 97,095 houses of all types have been provided in Scotland under the post-war housing programme.

The number of new permanent and temporary houses completed by local authorities and the Scottish Special Housing Association since January 1, 1945, which have been let to miners and agricultural workers are:—Miners, 9,925 (7,135 permanent and 2,790 temporary); Agricultural workers 1,944 (1,428 permanent and 516 temporary).

Building and engineering labour employed on housing at the end of June totalled 52,900, an increase of 100 over the March figure. The figure at July 31, 1945, was 23,500. In England and Wales the total number of new houses provided during June amounted to 14,159. The housing return for Scotland is available, price 6d., from H.M. Stationery Office, 13a, Castle-street, Edinburgh, 2, or through any bookseller.

BUILDING AND DECORATING PAINTS GROUP

THE inaugural meeting of the Building and Decorating Paints Group of the National Paint Federation was held on July 28, when Mr. Norman J. Campbell, director of the Federation, presided.

The constitution of the group as approved by the Federation was adopted. This gives the group autonomous powers subject to the general policy of the Federation. There are 110 members at present. The following were elected members of the executive committee until the annual meeting of the group in November:—

R. H. Archer (Mander Bros., Ltd), L. Bateman (James Beard, Ltd.), A. C. Blair (Walpamur Co., Ltd.), E. B. Calvert (Blundell, Spence and Co., Ltd.), S. W. Greig (British Paints, Ltd.), R. Ashley Hall (John Hall and Sons (Bristol and London), Ltd.), G. C. Ivess (Fleetwood Paints, Ltd.), N. Mayfield (Mayfield Bros., Ltd.), John S. Montgomerie (Montgomerie, Stobo and Co., Ltd.), C. Owen Morley (Postans, Ltd.), F. W. Newbatt (Goodlass, Wall and Co., Ltd.), G. E. Sanderson (A. Sanderson and Co., Ltd.), Noel Sissons (Sissons Bros. and Co., Ltd.), G. M. Taylor (Adshead, Ratcliffe and Co., Ltd.), D. Thatcher, M.B.E. (Atlas Preservative Co., Ltd.), S. E. K. Thornley (Thornley and Knight, Ltd.), T. T. Walton (Smith and Walton, Ltd.) and E. C. Wingrove (Vulcan Products, Ltd.). Mr. G. E. Sanderson was elected honorary treasurer.

Ballast Production Notes.

The Ballast, Sand and Allied Trades Association, 48, Park-street, W.1, have issued a booklet entitled "Production Notes," which aims at showing the producer the main factors in the running of his plant which may affect the grading or cleanliness of his products. Copies may be obtained from Mr. G. B. Mills, general secretary of the Association, price 1s.

NEWS IN BRIEF

B.M.P. Secretaryship.

Mr. L. R. Chambers has been appointed as Secretary to the National Council of Building Material Producers, in succession to Mr. M. G. Ionides, who has accepted the invitation to take an appointment in a new sphere of activity.

Catalogues Required.

The Education Architect's Section of the Borough Engineer's Department, Crossley-street, Halifax, would be pleased to receive trade catalogues relative to building materials and finishes suitable for educational buildings.

London Transport Canteen.

The terrazzo work at the canteen and Training Centre, Baker-street, of the London Transport Executive, illustrated in our last issue, was carried out by the Mosaic and Terrazzo Precast Company (Staines), Ltd., and not as given.

Prize for Plant Maintenance.

Mr. L. O'Donnell (17 RB 463, Outside Hire) and Mr. J. Munt (Dumper 421, Dagenham 116) shared first prize in the quarterly competition organised by their firm, Messrs. Wates Ltd., of London, for the maintenance of building plant. Out of a possible 18 points they each scored 17½.

C.L.B. Compulsory Orders.

The Central Land Board have made two further compulsory purchase Orders, one in respect of plots of land in Tilehouse-road and East Shalford-lane, Guildford, extending to a little over three acres, and the other in respect of a factory site of about half an acre in Stanley-street, Cheetham Hill, Manchester.

Examination Entries.

The Institute of Clerks of Works of Great Britain Incorporated have so far received entries from 96 prospective candidates, including six from Scotland and six from Wales, for the Institute's examination which takes place in the autumn. The secretary is Mr. W. J. Gibbins, 5, Broughton-road, Thornton Heath, Surrey.

I.C.W. Year Book.

The 1949-50 Year Book of the Institute of Clerks of Works of Great Britain Incorporated, edited by Mr. G. W. Harris, has been issued from 43, Leopold-road, Harlesden, N.W. It contains names and addresses of all members, associates, certified honorary members, retired clerks of works and honorary members of the Institute. The tables, formulæ and other information have again been enlarged in this new edition. In the preface a call is made for more widespread confidence in the Institute on the part of architects who, it is suggested, should make a habit of applying to the I.C.W. when in need of a clerk of works.

Building Exhibition, Gothenburg.

A building industry exhibition of international character is planned in connection with the Swedish Fair in Gothenburg, from August 28 to September 4. The exhibition, which is organised in collaboration with State authorities, scientific institutions and trade organisations, aims at demonstrating the development in the building industry, at illuminating the problems of the trade from all angles, and at presenting the latest results of research work carried on in various countries. Several congresses will be held in connection with the exhibition.

M.O.H. Annual Report.

The annual report of the Ministry of Health for the year ended March 31, 1948, has been issued by H.M.S.O., price 5s.

Golf Meeting.

The autumn meeting of the Building and Allied Trades Golfing Association is to be held at Wentworth on September 21, not September 27 as previously stated.

Building Materials Centre, Natal.

A building materials centre is to be established in the building department of the Natal Technical College, Durban, South Africa. The centre, which will be the first of its kind in Natal, will be a permanent exhibition of all kinds of building materials, fittings and equipment and it is intended to keep the exhibition up to date by including new products and developments in methods of construction as they become available.

A reference library will contain catalogues, brochures, descriptive literature, price lists (when available), current architectural and building journals, reports issued by the South African and British Standards Institutions, the Building Research Station, the South African Forestry Department and the Forest Products Research Laboratory. Mr. J. C. Dickson, head of the building department, invites contributions for display.

It is intended that the centre shall consist of a comprehensive and representative collection of materials with sections allocated to the following:—Acoustic materials, asbestos, cement products, bitumastic materials, bricks, cement and concrete, doors, drainage equipment, electrical appliances and equipment, fire fighting appliances, floorings, gas appliances, glass, heating equipment, insulation materials, ironmongery, kitchen fittings, paint, patent glazing, plaster, plastics, plumbing equipment, sanitary fittings, slates, tiles (floors, walling and roofs), timber, wall boards, windows (wood and metal).

PRE-CAST AND "IN SITU" FLOORS — Helicon floors are light, rigid, fire-proof, sound-resisting and hygienic, and are readily adapted to meet all requirements. Speedy erection makes them economical.

FERRO-CONCRETE DESIGN AND CONSTRUCTION — Many of the finest buildings in the country today are constructed of Helicon. Architects and engineers appreciate its fitness for purpose—they appreciate, too, the specialised advice which is so necessary in this form of construction.

PRE-CAST CONCRETE AND CAST STONE — For free advice on this or on any type of ferro-concrete construction, call, write or phone for a technical representative to call.

THE HELICAL BAR & ENGINEERING Co. LTD.
82 VICTORIA STREET, WESTMINSTER, LONDON, S.W.1. PHONE: VICTORIA 6038. RESIDENT AGENTS: BIRMINGHAM. MIDDLESBROUGH. NEWCASTLE.

M-W.59

TRADE NEWS

Change of Address.

The Wood Fibre Wallboard Co. announces that its address on and after August 19 will be 8, City-road, Finsbury-square, E.C.1 (tel.: Monarch 0455).

A Greek Export Order.

Messrs. Fordham Pressings, Ltd., of Wolverhampton, have received an order from the Greek Ministry of Health for 1,000 of their low-level syphonic flushing cisterns. The order came through their Athens agent, Entreprises de Commerce et de Commission.

A New Catalogue.

An up-to-date catalogue, Section W(1), listing the various grades of Pirelli-General electric wires and cables, together with their respective prices, has been issued by the G.E.C. The Southampton factory of Pirelli-General Cable Works, Ltd., is one of the largest in the kingdom devoted entirely to the manufacture of rubber-insulated cables and cords.

Hydraulic Loading Shovel.

Messrs. W. E. Bray and Co., Ltd., of Isleworth, Middlesex, announce that they are now producing a ⅛ cubic yard capacity hydraulically controlled loading shovel which eliminates the use of wire ropes in the shovel operation. A gear type pump develops power for the hydraulic jacks and a fingertip hydraulic control valve controls the raising and lowering of the bucket. Two lowering speeds are available. The jacks are of the displacement type and are hard-chromed to give resistance against abrasion. As an additional safeguard in this direction, wipers are fitted within the head of the jack. An outstanding feature of this unit is the crowding action given to the bucket by the secondary boom, which enables a full bucket of free flowing material, such as gravel, to be carried in exceptionally low headroom without spilling. This also improves the stability of the shovel when travelling fully loaded over rough ground. Electric starting equipment is fitted on all models for use in Great Britain and the shovel is designed exclusively for operation with the Fordson Major Industrial Power Unit.

A Comprehensive Catalogue.

The fullest information on the various products manufactured by the Adamite Co., Ltd., of Manfield House, Strand, London, W.C.2, is contained in a comprehensive catalogue which the company has issued. The catalogue, which carries a number of explanatory illustrations, is divided into the following sections: "Altro" non-slip treads and tiles, "Bull Dog" floor and ceiling clips, "Bull Dog" acoustic floor clips, "Colemanoid" No. 1 concrete hardener and waterproofer, "Colemanoid" No. 3 concrete surface hardener and dustproofer, "Ellicem" cement paint, "Redalon" cement retarding liquid, and "Adamite Doors" flush and panel, etc. A full description of each product is given, together with notes on its particular use. The catalogue also includes price lists and lists of typical constructions upon which the individual products have been used. Produced in the thumb-index style, it is useful for quick reference, and the loose-leaf covers may easily be removed so that additional pages can be attached at any time. In the section dealing with "Ellicem" cement paint appears a shade card showing 24 different shades of the paint suitable for internal and external use.

Change of Title.

On August 1, with the approval of the Board of Trade and the shareholders, Messrs. S. Wolf and Co., Ltd., changed the title of the firm to Wolf Electric Tools, Ltd.

British Industries Fair, 1950.

Applications it is stated, have already been received by the organisers of the British Industries Fair for more than half of the total space available at Earls Court and Olympia in London. In Birmingham, where a similar proportion has been received by the Chamber of Commerce, extensions are being made to the outdoor section. The next Fair will be held at both centres May 8 to 19, 1950.

The Uses of Aluminium.

The Aluminium Development Association, 33, Grosvenor-street, W.1, has recently issued a booklet "Aluminium in Service," the purpose of which is to describe the behaviour of aluminium and its alloys in many different fields over the longest possible periods. Full information regarding "case histories" is given under the headings "Protection," "Method of Fabrication," "Conditions of Service," "Results of Examination," and "Conclusions and Observations."

Paint on Asbestos Cement.

Tretol, Ltd., of 12-14, North End-road, London, N.W.11, announce a paint which, we are informed, can be applied direct to new or old asbestos-cement without the previous use of sealing or neutralising solutions. Called "Tretolin" it is available in fifteen standard shades, in addition to black and white. Several colours are suitable for single coat application to asbestos-cement roofing and both brushing and spraying grades are manufactured. The July issue of *Building Topics,* published by the firm, contains an interesting article on this subject.

Appointments.

After 55 years with Messrs. Sissons Brothers and Co., Ltd., Mr. Oswald H. Sissons has relinquished the chairmanship of the company and the directors have appointed Mr. H. C. Bushby as his successor. Mr. J. A. Dew, who has spent 36 years in the service of the company, has also retired, and Mr. Richard C. Sissons has been appointed managing director in his place.

Messrs. Fleetwood Paints, Ltd., have recently appointed Mr. H. F. Eagleton, Mr. B. Ward Turner, F.I.B.D., and Mr. R. W. Green to sit on the management board.

Ladder Attachment.

A ladder attachment which, it is claimed, makes it possible for any ladder to stand level on a gradient or uneven surface is now being produced by Messrs. Dorset Light Industries, Ltd. Called the "Byprop," it consists of two hydraulically-worked legs which are self-adjusting; in other words, when one comes down the other goes up. The liquid used is a special compound stated to be impervious to extreme temperatures. It has been found from practice, say the manufacturers, that it is not necessary to have a valve to lock the legs when in position, since the weight of a person on a ladder is distributed equally. The "Byprop" is adaptable for general conditions of both interior and exterior work. The feet are of steel, slightly irregular at the base to prevent slipping; rubber caps may be fitted for use on some surfaces. Discs of five inches diameter can also be attached by means of split-pins for use on muddy ground.

TIMBER FROM RUSSIA

CONTRACTS have been concluded with the U.S.S.R. for the supply of about 100,000 standards of softwood. An announcement by the Board of Trade states that the purchase was the outcome of discussions between the Secretary for Overseas Trade, Mr. A. G. Bottomley, and the acting head of the Soviet trade delegation in London.

The U.S.S.R. will send 17,000 standards of Kara Sea redwood, 52,500 standards of redwood, and 2,000 standards of whitewood from the White Sea; 5,000 standards of redwood and 5,000 standards of whitewood from the Baltic ports of Riga and Windau, and 12,500 standards of redwood and 6,000 standards of whitewood from the Russian zone of Germany. The Kara Sea and White Sea goods are all of joinery quality, the balance being eminently suitable for building purposes.

Shipping will start almost immediately, and it is hoped that the total quantity will be lifted before the close of navigation this year.

THE SCOTTISH BUILDER

NEW BUILDINGS

Blairgowrie and Rattray. — Corporation approved plans for 20 houses at Park-dr. and Provost-rd., for which the responsible architect is W. A. Coates, Burgh S., Municipal Offices.

Glasgow.—Plans in hand for new additions, etc., at The Stow College, Cathedral-st., for which the architect is Mr. John MacNab, 129, Bath-st., Glasgow.

Glasgow.—Plans in hand for church hall and other erections at Dunkerlie-ave., for which the architect is Mr. Lockhart W. Hutson, Cadzow-st., Hamilton.

Glasgow.—New offices, etc., are to be erected for H. J. Stewart & Bros., Ltd., Clyde Saw Mills, Shieldhall, at Hardgate-rd., for which the architects are Frank Burnet, Boston & Bell, 180, Hope-st., Glasgow, C.1.

Glasgow.—Estimated to cost between £9,000 and £10,000, a new clubhouse is to be erected on a site at Wardhill-rd. by the Scottish Brunswick Boys' Club Trust, 181, West Regent-st., Glasgow.—Plans in hand for houses at Area 8, Milton, to cost £40,000 for which the architect is Mr. Archibald J. Jury, Corporation Housing-bldgs., Glasgow Cross, Tronsgate, Glasgow.

Hamilton.—Lanarkshire C.C. to erect at Sunnyside Highway, Quarter, two blocks of houses, etc., for which the architect is Samuel MacColl, County-bldgs., Beckford-st., Hamilton.

ARCHITECTS and BUILDERS
are changing to
AYGEE
METAL WINDOWS
because of
1. DESIGN
2. CRAFTSMANSHIP
3. SPEEDY DELIVERY
4. SERVICE
100, Westminster Bridge Rd.,
LONDON, S.E.1
'Phone: WATerloo 6314 (6 lines)

FUTURE CONSTRUCTION

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

AUGUST 16.

†***Hastings C.B.**—Additions, Red Lake school, Ore. B. & Water E., 37, Wellington-sq. Dep. £2 2s. Tenders by August 30.

AUGUST 17

†***Crawley Development Corporation.**—Repair, reinstatement, alterations, etc., to hutments forming hostel at Tilgate Estate. Chief A. Broadfield, Crawley, Sussex.

†**Wednesfield U.D.C.** — Two blocks of maisonettes at Mattox-rd. E. & S., Pennhurst, 29, Bolton-rd., Wednesfield. Dep. £3 3s.

AUGUST 18.

†***Crosby T.C.**—(a) 76 flats at Claremount-rd., Seaforth; (b) 36 flats off De Villiers-ave., Gt. Crosby. B.E. & S., Town Hall, Waterloo, Liverpool, 22. Dep. £2 2s.

†***Gateshead C.B.**—Junior school, Lobley Hill. H. J. Cook (A.), Chief A. Dep. £5 5s. Tenders by September 7.

AUGUST 19.

†***East Suffolk C.C.**—Education offices, etc., at Ipswich. E. J. Symcox, F.R.I.B.A., County A., County Hall, Ipswich. Dep. £2 2s.

†***East Sussex C.C.**—Prefabricated hall with site works for Stafford House Youth Centre, Hassocks. J. Catchpole (A.), County A., County Hall, Lewes. Tenders by September 9.

AUGUST 20.

†***Essex C.C.**—Erection of 2 schools: (a) Romford Harold Hill Junior and Infants' School; (b) Clacton-on-Sea Secondary Modern School for Girls (first part). H. Conolly (F.), County A., County Hall, Chelmsford.

AUGUST 22.

Barry T.C.—12 houses with drainage works, etc. B.E. & S., Town Hall. Dep. £2 2s.

Bredbury U.D.C.—Four shops with 2 flats over at Cherry Tree-la., Romiley. E. & S., Council Offices. Dep. £2 2s.

***Chester R.D.C.**—Four houses with drainage at Pulford. F. C. Saxon (F.), 2, Stanley-st., Chester. Dep. £2 2s.

†***Coventry T.C.**—Superstructure to block of shops and offices, Broadgate.

Cowbridge T.C.—20 houses at the Limes site. E. Loveluck, architect, 12, Dunraven-pl., Bridgend.

Morpeth R.D.C.—18 bungalows at Cookswell estate. E. & S., Council Offices, Dacre-st. Dep. £2 2s.

AUGUST 23.

†***Croydon C.B.**—Prefabricated three-classroom block, cloakrooms and lavatories, Kensington-ave. school, Thornton Heath. Chief Education Officer, Katherine-st. Dep. £1. Tenders by September 12.

†***Rugby B.C.**—194 houses at Newbold Glebe estate (section 2). Collins & Britton, 39, Bennett's Hill, Birmingham, 2. Dep. £2 2s.

***Wakefield T.C.**—Dining-room and scullery at Snapethorpe County Junior School. City E. Office, Room 38, Town Hall. Dep. £2 2s.

†***West Sussex C.C.**—Canteen kitchen and dining-room at school, South Lancing. F. R. Steele (F.), County A., Chichester.

AUGUST 24.

†***Dorking U.D.C.**—Four shops with flats over at Chart Downs housing estate. S. Dep. £2 2s. Tenders by Sept. 12.

Hull T.C.—Alterations and additions to North Newington Telephone Exchange. City A. Dep. £1 1s

***Kidderminster Boro.**—54 houses, Sion Hill housing estate. B.E. & S., 110, Mill-st.

***Merton and Morden U.D.C.**—War damage and maintenance repairs, etc., West Barnes pumping station and cottage. E. & S.

†**Wellington (Salop) R.D.C.**—Eight houses at Lawley. Walter B. Bond, F.R.I.C.S., 3, Newhall-st., Birmingham, 3. Dep. £3 3s. Tenders by September 14.

†***Wolverhampton C.B.**—100 houses, Willenhall-rd. estate. Director of Housing. Dep. £5 5s.

AUGUST 25.

Liverpool T.C.—18 flats at Woolton-gr. City A. & Director of Housing, Blackburn-chbrs., Dale-st., Kingsway. Dep. £2 2s.

Spilsby R.D.C.—Six pairs of houses with estate road and sewage disposal plant, etc., at Midville. Wm. Saunders & Partners, 24, Castle Gate, Newark-on-Trent. Dep. £3 3s.

*Stretford T.C.—38 flats on Firs Farm site, Firswood, Old Trafford. A. H. Perry, B.S. Dep. £2 2s.

AUGUST 26.

*Ploughley R.D.C.—Eight houses at Somerton. F. E. Openshaw (A.), Oxford Allied Architects, 65, St. Giles-st., Oxford. Dep. £2.

AUGUST 27.

*Bournemouth C.B.—Repairs to Parade shed, stores and garages at rear of police station, Madeira-rd. Boro' A. (Room 98), Town Hall. Dep. £1 1s.

AUGUST 29.

Devizes R.D.C.—Six houses with site works at Rowde. Edwards & Webster, architects, 32, Market-pl., Chippenham. Dep. £1 1s.

Devizes. — 14 houses with outbuildings, drainage, etc., at Brickley-la. estate, Scheme No. 3.D. B.S & Water E., The Chequers. Dep £3 3s.

AUGUST 30.

*Barnsley C.B.—46 houses in 3 contracts at Athersley estate. B.E., Town Hall. Dep. £2 2s.

Carmarthen T.C.—68 dwellings. G. L. Ovens, E. & S., Municipal-bldgs. Dep. £2 2s.

*Wem R.D.C.—16 houses on four sites. Hind & Brown (L. and A.), District Bank-chbrs., 2, Market-st., Hanley, Stoke-on-Trent. Dep. £2 2s.

AUGUST 31.

Alcester R.D.C.—34 houses at 2 sites. F. B. Andrews & Son, 95, Colmore-row, Birmingham, 3. Dep. £2 2s.

Chesterton R.D.C.—13 houses in 2 parishes. H. Jackson, architect, 93, Harlington-gr., Cambridge. Dep. £2 2s. each site.

Ely U.D.C.—Eight pairs of houses at Prickwillow. Architect & S., Council Offices, Lynn-rd. Dep. £1 1s.

Eston U.D.C.—14 aged persons' bungalows at Birchington-ave., Grangetown. E. & S., Normanby-rd., South Bank. Dep. £5 5s.

Newcastle-on-Tyne T.C.—20 houses at Stamfordham-rd., Blakelaw estate. City A., 18, Cloth Market.

*Oldbury T.C.—48 houses, Titford estate. T. Dunkley Hogg (A.), 1, Church-st. Dep. £2 2s.

*Tutbury R.D.C.—Three pairs of houses, Hadley End, Yoxall. R. S. Litherland (L.), 10, High-st., Burton-on-Trent. Dep. £1 1s.

SEPTEMBER 1.

*Berks C.C.—Erection of County Primary School at Chilton. County A., Wilton House, Parkside-rd., Reading. Dep. £5 5s.

Rochdale T.C.—28 houses at Kinkholt estate. B.S.; Town Hall. Dep. £2 2s.

†*West Sussex C.C.—New one-form entry junior and infants' school, East Preston. F. R. Steele (F.), County A., Chichester.

SEPTEMBER 2.

*Luton T.C.—18 lock-up garages at Farley Hill estate. B.E. Dep. £2 2s.

SEPTEMBER 3.

*Spalding U.D.C.—30 houses at St. Paul's-rd. estate. L. A. Gornall, S. & Architect., Short-st., Spalding. Dep. £2 2s.

SEPTEMBER 5.

Atherstone R.D.C.—Seven pairs of houses at Shortwoods site, Dordan. H. N. Jepson, Midland Bank-chbrs., Nuneaton. Dep. £2 2s.

*Barton-upon-Humber U.D.C.—24 houses, Tofts-rd. estate. Fisher & Hollingsworth, architects, 23, Lowgate, Hull. Dep. £2 2s.

*East Grinstead U.D.C.—Six houses at Stonequarry estate and 4 at Ashurstwood estate. C., Council Offices, East Court. Dep. £2 2s.

*Frimley and Camberley U.D.C.—Public convenience, London-rd., Yorktown. E. & S. Dep. £2 2s.

Penistone R.D.C.—40 houses with road works at Park-ave. site. N. Heppenstall, 135, Armitage-rd., Milnsbridge, Huddersfield. Dep. £2 2s.

Tenby T.C.—22 houses at Glebe estate, with road and site works. B.S., Civic Centre. Dep. £2 2s.

†*Warwicks C.C.—Applications invited from contractors to be put on list for maintenance and new building works. County A., Shire Hall, Warwick.

SEPTEMBER 7.

*Bournemouth C.B.—Additions at Kinson County Primary School. Boro' A. (Room 98), Town Hall. Dep. £2 2s.

SEPTEMBER 8.

Bacup T.C.—24 houses at Huttock End. Site No. 2. B.E., Municipal Offices. Dep. £2 2s.

SEPTEMBER 9.

Hemel Hempstead R.D.C.—15 houses at Barnes-la. estate, Kings Langley. E. & S., Council Offices, 2, Marlowes. Dep. £2 2s.

SEPTEMBER 10.

St. Albans T.C.—14 houses at St. Julian's estate. City E. & S., 16 Peter's-st. Dep. £2 2s.

SEPTEMBER 12.

*Beckenham T.C.—Six dwellings with outbuildings at Layhams-rd., West Wickham. B.E. & S., Town Hall. Dep. £2.

*Bournemouth C.B.—Erection of School of Architecture and School of Catering at Municipal College. Boro' A. (Room 98), Town Hall. Dep. £2 2s.

SEPTEMBER 16.

*Canterbury T.C.—Block of flats at Martyrs Field site. City A., Municipal-bldgs. Dep. £2 2s.

Ossett T.C.—36 houses at Love-la. B.S., Town Hall. Dep. £2 2s.

SEPTEMBER 19.

*Gateshead C.B.—Remodelling, renovating and demolishing of public conveniences at Saltwell Park. Chief A., Swinburne-st. Dep. £5 5s.

NO DATE.

*Stevenage Development Corporation.—220 flats with ancillary buildings and site works at Sish-la., Yorke. Rosenberg & Mardall, 2, Hyde Park-pl., London, W.2. (Applications in writing only.)

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

AUGUST 22.

Oundle R.D.C.—External painting of 100 houses at various sites. F. J. Jennings, S., Council Offices, Midland-rd., Thrapston. Dep. £2 2s.

AUGUST 26.

Worcester T.C.—External redecoration of Hop Market Hotel, warehouses and offices. City E., 22, Bridge-st. Dep. £2 2s.

AUGUST 27.

Mansfield Woodhouse U.D.C.—External painting of 104 houses and 4 bungalows at Saint-la. estate. Housing Manager, Council Offices, Manor House.

SEPTEMBER 16.

Feltham U.D.C.—External painting of 100 dwellings. E. & S., Council Offices. £2.

"THE BUILDER" PRICES

GLASS

The National Federation of Constructional Glass Associations announces the following revised glass prices which became effective on and from August 3:—

	Per Foot.
Rolled Plate ¼ in.	7½d.
Rough Cast ⅛ in. and ¼ in.	8½d.
Reeded, cross reeded, broad reeded, and major reeded	9½d.
Wired Cast ¼ in.	9½d.
Georgian Wired Cast ¼ in.	10d.

LEAD PRODUCTS

Associated Lead Manufacturers, Ltd., announce that, as a result of the controlled price of pig lead being advanced by £2 2s. 6d. per ton, the basis prices of lead products are increased as below. These prices are operative as from August 9.

	Advanced.			To-day's Basis Price.			
	£	s.	d.	£	s.	d.	
Dry White Lead	2	0	0	115	10	0	per ton
Ground White Lead ...	1	15	0	135	10	0	per ton
White Lead Paint			6	2	3	6	per gal.
Magnet Hard Gloss ...	No increase			2	2	0	per gal.
Red Lead and Litharge ...	2	0	0	105	10	0	per ton
Red Lead Ground in Oil ...	1	15	0	129	5	0	per ton
Red Lead Paint—							
Type 1 ...			6	2	5	0	per gal.
Type 2 ...			6	1	16	0	per gal.
Lead Sheet ...	2	5	0	103	15	0	per ton
Lead Pipe ...	2	5	0	105	0	0	per ton
Lead Shot ...	2	0	0	115	0	0	per ton
Basic Lead Sulphate ...	1	10	0	100	0	0	per ton

ROADS, SEWERAGE AND WATER WORKS

AUGUST 19.

†*Reading C.B.—Extensions to No. 2 Pumphouse, Water Pumping Station, Pangbourne. Boro' A. Dep. £2 2s.

AUGUST 20.

Barnet U.D.C.—Roads and sewers at Connaught-rd. site. E. & S., Ravenscroft House, Wood-st.

AUGUST 24.

Northampton R.D.C.—Roads and drainage at Nether Heyford site. S., 1, Cheyne-walk. Dep. £2 2s.

AUGUST 26.

Gt. Yarmouth C.B.—Roads and sewers at Magdalen College estate, Contract No. 2. B.E., Town Hall.

AUGUST 30.

Bakewell U.D.C.—Laying of water mains, etc., at Rowsley. S., Town Hall.

Epping R.D.C.—Roads and sewers at Sheering-rd. site. E. & S., 209, High-st. Dep. £2 2s.

AUGUST 31.

Broadstairs and St. Peter's U.D.C.—Road and surface drainage works at Northdown Hill estate. E. & S., Pierremont Hall. Dep. £2 2s.

Godalming T.C.—Road reconstruction at The Wharf. B.S. Dep. £2 2s.

SEPTEMBER 2.

Chislehurst and Sidcup U.D.C.—Roads and sewers at Edgebury estate. E. & S., Council Offices, Main-rd., Sidcup. Dep. £5 5s.

Cowes U.D.C.—Roads and sewers at Beatrice-ave., East Cowes. E. & S., Northwood House, Cowes. Dep. £2 2s.

Hawarden R.D.C.—Extensions to East Saltney sewerage and sewage disposal works. Elliott & Brown, Stanley House, Pelham-rd., Nottingham. Dep. £3 3s.

Surbiton T.C.—Roads and sewers at Chessington Court site. B.E. & S., Council Offices. Dep. £2.

SEPTEMBER 3.

Cardiff R.D.C.—2,000 yds. of 9 in. and 7 in. dia. sewer of stoneware and spun-iron, together with manholes, etc. John Taylor & Sons, Artillery House, Westminster, S.W.1. Dep. £5.

Dartford R.D.C.—Sewer extension at Birchwood-rd. E. & S., Council Offices, West Hill. Dep. £2 2s.

Nottingham T.C.—Reinforced concrete reservoir at Bestwood Park. E. & General Manager, Water Dept., Castle Boulevard. Dep. £5 5s.

*Portland U.D.C.—200 lin. yds. sewer, etc., to five cafés at Portland Bill. B. J. Cornelius, E. & S. Dep. £1 1s.

Tunbridge Wells T.C.—Sewage disposal works at North Farm. B.S. Dep. £5 5s.

SEPTEMBER 10.

Bakewell R.D.C.—Sewerage and sewage disposal works at Taddington. Brady & Partington, Market-st., Chapel-en-le-Frith. Dep. £5.

SEPTEMBER 12.

Chesterton R.D.C.—Laying of Hardwick Water Supply Scheme. E. & S., County Hall, Hobson-st., Cambridge. Dep. £2 2s.

Kettering R.D.C.—Sewerage and sewage disposal works at Geddington. Pick, Everard, Keay and Gimson, 6, Millstone-la., Leicester. Dep. £2 2s.

SEPTEMBER 16.

Hemsworth U.D.C.—2,450 lin. yds. of 33-in. 27-in., 24-in., 21-in., 18-in. and 12-in. concrete pipe sewers, together with manholes, etc., between Barnsley-rd. and sewage disposal works. Willcox, Raikes & Marshall, 33, Gt. Charles-st. Birmingham. Dep. £5 5s.

Ossett T.C.—Roads, sewers and water mains at Love-la. B.S., Town Hall. Dep. £2 2s.

NO DATE.

Gainsborough U.D.C.—Sewage disposal works extensions at White's Wood-la. John H. Haiste, M.I.C.E., 4, Queen-sq., Woodhouse-la., Leeds, 2. Dep. £2 2s.

Wing R.D.C.—Sewage disposal works at Edlesborough. W. E. Thompson, S., Council Offices, 4, Church-rd., Linslade, Leighton Buzzard.

GENERAL BUILDING WORK (LONDON)

Croydon.—HOUSES.—Boro' E. is preparing plans for dwellings on bombed sites at Leighton-st., Pawsons-rd. and Northbrook-rd., and at Crystal-ter. and Oxford-rd. (Upper Norwood).

Dagenham.—EXTENSION.—C. J. Dawson, Son &

Allardyce, Barclays Bank-chbrs., Barking, Essex, are architects for an extension to assembly shop of Springcot, Ltd., at Whalebone-la.

Dagenham.—FOUNDRY, ETC.—A Quinton Cook, 52, Rivington-ave., Woodford Green, Essex, is the architect for a proposed foundry and die-casting building at Wanty-rd. for J. Crollie & Son, Ltd.

Dagenham.—FLATS.—Boro' Architect's Dept. is preparing plans for about 60 flats at Whalebone-la. South (Gray-ave./Stanley-ave.).

Lambeth.—LAND FOR HOUSING.—L.C.C. are to loan Lambeth B.C. £20,000 to acquire a housing site in Leigham Court-rd.

Putney.—HOUSES.—B.C. to acquire sites of Nos. 81-89, Bangalore-st. for the erection of four houses at about £8,020. Plans by Boro' A.

St. Marylebone.—FLATS.—Architects are to be appointed shortly to prepare plans for 56 flats at Boundary-rd. site No. 4 for B.C.

St. Marylebone.—FLATS.—B.C. approved draft proposals for 37 flats at Marlborough-pl., Abbeygdns., site No. 15A. Architects not yet appointed.

Sloane Square.—STATION RECONSTRUCTION.—London Transport Executive propose reconstruction of Sloane-sq station for which sketch plans have been prepared by Engineer's Dept.

Streatham.—DWELLINGS.—Wandsworth B.C. have approved Boro' Architect's plans for 24 dwellings as first stage of Hopton-rd. scheme. Tenders to be invited shortly. A further 14 to be erected on same site later.

Upper Holloway.—CHURCH RECONSTRUCTION.—Junction-rd. Congregational Church is to be reconstructed.

Walthamstow.—FACTORY EXTENSIONS.—Tooley and Foster, Midland Bank-chbrs., Buckhurst Hill, are preparing scheme for extensions at Aneroid Works, Macdonald-rd.

Walthamstow.—FACTORY EXTENSION.—Elliott Cox & Partners, 172, Buckingham Palace-rd., S.W.1, are architects for a factory extension at Fingal Works, Staffa-rd.

Walthamstow.—HOUSES.—Boro' A. is preparing plans for four houses on Howard-rd. site.

Walthamstow.—EXTENSION.—Metropolitan Water Board propose an extension to Woodford Pumping Station, Forest-rd., to house pumping plant. Plans by the Board's Architects' Dept.

Wandsworth.—DWELLINGS.—Housing Comm. propose 36 dwellings at Strathville-rd. Plans by Boro' A.

Wembley.—HOUSES.—F. & C. Costin, Ltd., builders, 226, Kenton-rd., Harrow, have prepared their own plans for 19 heuses on sites of Nos. 5-23, Palace Court.

Wembley.—NEW SCHOOL SITE.—B.C. agreed to proposed siting of Grove Park Prim. School at Stag-la. and Grove Park junction.

Wembley.—CLASSROOMS.—M.C.C. propose three temporary classrooms at Wembley Hill Sec. Sch., High-rd. Plans by County Architect's Dept.

West Hounslow.—CHURCH.—Heston and Isleworth B.C. have conveyed to the London Diocesan Fund a site at Hounslow West housing estate for the proposed erection of a church.

Wood Green.—LAND FOR HOUSING.—B.C. to make compulsory purchase of land in Marlborough-rd. for housing purposes. Plans by Boro' Engineer.

(PROVINCIAL)

Altrincham.—B.C. approved plans for use of land at Manchester-rd. for light industrial purposes for Automatic Scale Co., Ltd.; sub-station at Musgrave-rd. for B.E.A.

Bakewell.—R.D.C. propose houses at Flagg. R. Hayhirst, surveyor.

Bangor.—Welsh Regional Hospital Board to consider erection of new hospital.

Barrow.—E.C. propose school at Ormsgill estate.

Beaumaris.—T.C. propose improvements to town hall.

Bedworth.—U.D.C. propose 56 houses on Coalpits Fields estate at £71,911 and 12 at Meadow-rd. estate at £15,888; 44 houses are to be erected at Bulkington at about £56,582.

Birmingham.—E.C. propose 2 schools and community centre at Radnal House estate.

Bishop Auckland.—Wilson's Forge (1929), Ltd., propose to extend their works. Plans by the staff.

Blackpool.—Plans submitted to T.C. for six houses at St. Luke's-rd. for J. Bertwistle, Ltd., Highfield-rd., Blackpool.

Bolton.—Schemes costing £15,600 are being prepared for transport dept. garages.—Highways Dept. propose building 6 garages, plant shed and joiners' shop and builders' store.—E.C. are preparing final plans for county sec. sch. at Great Lever at £500,000.

Booth Green.—Methodist Church Trustees propose new church at Four Lanes Ends. Plans to be announced shortly.

Bradford.—T.C. seek loan of £8,250 for additional classrooms at Bolton Royd school.

Bromsgrove.—U.D.C. approved plans for gate house, pay office and amenities block at Stoke Works for I.C.I. Ltd.; 30 houses and officers' club at Hewell Grange for Prison Commissioners; extension at Bordesley Hall, Alvechurch, for Cast Iron Research Assoc.; approved in principle scheme for 56 houses at Snake-la., Alvechurch.

Bury.—British Railways have prepared plans for reconstruction of Bolton-st. station.

Carnforth.—U.D.C. seek loan of £16,110 for 12 houses in No. 2 housing scheme. Approved layout for additional 48 houses.

Chesterfield.—R.D.C. propose aged persons' hostels at Mickley, Wingfield-rd., Tupton, Birk Hill, Eckington and Renishaw; are to invite tenders for further houses shortly. Engineer, B. Wikeley, A.M.I.C.E.

Darlington.—S. W. Milburn & Partners, 9, The Esplanade, Sunderland, are architects for additions to works in West Auckland-rd. for Darlington Chemical and Insulating Co., Ltd.

Darwen.—T.C. received M.O.H. approval to layout and plans for 100 houses at St. James site; propose 12 houses and 6 bungalows, Redvers-rd.

Derbyshire.—C.C. propose new fire station and div. H.Q. at Compton-rd., Buxton, at £33,000.

Dover.—Kent C.C. Ed. Comm. propose a county primary school, including kitchen and dining-room; also a further kitchen and dining-room for the county sec. school, both on Astor-ave. site.

Droitwich.—T.C. approved plans for British Legion H.Q. at Covercroft. Penberthy & Sanders, Ltd., Bournbrook, propose factory.

Droitwich.—R.D.C. approved plans for office block to existing factory, Shaw-la., Stoke Prior, for E. Gittus.

Ellesmere Port and Chester.—E.C. propose additional classrooms and other improvements at Little Sutton Parklands County Primary School.

Erith.—M. of E. approved proposal for aluminium school unit at Belmont Sanatorium, together with adaptations to existing buildings to form two classrooms and dining-hall.

Eston.—U.D.C., North Riding, to build 14 bungalows. Plans by surveyor, Council Offices, Grangetown-on-Tees.

Evesham.—R.D.C. propose 74 houses. T. A. B. Dempster, architect.

Gateshead.—E.C. is to spend a million pounds in next five years on a technical college, a college for adult education, two county colleges and a number of youth centres and community centres. H. J. Cook, architect.

Gateshead.—Tenders are being obtained by T.C. for construction of a storm-water overflow and ancillary works on Coach-rd. estate. Plans by the Acting Boro' Engr. (A. J. McGregor), Municipal-bldgs., Gateshead.

Gosforth (Northumberland).—Tasker & Child, 25, New Bridge-st., Newcastle-on-Tyne, are architects for proposed additions to St. Hilda's Training School, Salters-rd.—Solomon, 3, St. Mary's-pl., Newcastle-on-Tyne, has prepared plans for cinema in Haddricksmill-rd. for Messrs. Russell.—Newcastle Breweries, Ltd., Haymarket, Newcastle-on-Tyne, are to rebuild "Coxlodge Hotel" to plans by F. T. Blumberg, Staff Architect.—Marshall & Tweedy, 36, Blackett-st., Newcastle-on-Tyne, have prepared plans for alterations for Newcastle Savings Bank, Ltd.

Halesowen.—T.C. to purchase land at Kent-rd. for flats. Plans have been prepared for 24 flats at Maple Tree-la., Cradley. T. W. Tivey, Surveyor.

Halifax.—T.C. to invite tenders for 150 houses at Illingworth site.—Approved lay-out plan for 84 aged persons' bungalows at Willowfield.

Hastings.—T.C. considering compulsory purchase of 7½ acres near Silverhill Junction, St. Leonards, for light industrial development.

Herefordshire.—C.C. propose new primary school at Leominster; secondary modern schools at Kingston Ross and Hereford; secondary grammar school for girls at Hereford; gymnasium at Hereford Training College. County A., R. J. Usher, County-bldgs., Hereford.

Hoole.—Amended plans for village hall approved.

Houghton-le-Spring.—Southgate Cinemas, Ltd., propose cinema in Long-row, Shiney-row, to plans by C. Solomon, 3, St. Mary's-pl., Newcastle-on-Tyne.

Houghton-le-Spring.—U.D.C. propose 45 houses and block of single people's flats. Plans by surveyor, Council Offices, Houghton-le-Spring.

Hyde.—T.C. plans are being prepared for development of central area, Wych Fold estate and Hoviley area.

Ilkley.—T.C. approved plans for conversion of dwellings to light engineering factory for Fairbank Engineering; new warehouse and loading dock at Corn Mill, Burley, for Clapham & Son.

Keighley.—E.C. propose school at Guard House, Boro' A., E. G. Felgate.

Lancs.—C.C. to seek loans of £103,195 for Eccleston and Windle infants' and junior school (plans by Grenfell Baines Group, 12, Guildhall-st., Preston), £90,500 for Woolston junior and infants' school (plans by Herbert J. Rowse, Martins Bank-bldgs., Liverpool 2); £11,658 for conversion of Urmston Davyhulme county school into junior dept. (plans by Francis Jones & Son, 178, Oxford-rd., Manchester 13); £87,415 for Eccles Alder Park junior and infants' school (plans by Willink & Dod, Cunard-bldgs., Liverpool 3); propose extensions to Carnforth fire station. G. Noel Hill, F.R.I.B.A., County A.

Leeds.—Welfare clinic and canteen are to be built at factory of "Jackson the Tailor," Newcastle. Architects, Stephenson & Gillis, Saville-chbrs., Saville-row, Newcastle.

Leicester.—E.C. propose junior school at Mayflower-rd. and 6 temporary classrooms at Humberstone-rd. junior school.

Macclesfield.—T.C. propose rebuilding of slipper baths at Central Baths. Boro' A., E. A. Heppenstall.—Church of England Diocesan E.C. propose primary school, Ivy-rd.

Maidstone.—Kent C.C. Ed. Comm. to erect county sec. school at Boughton-la.

Manchester.—T.C. to seek loan of £36,330 for extensions to Wythenshawe Royal Oak county school.

Middleton.—B.C. approved alterations to Railway Hotel for Walker & Homfrays, Ltd., Salford; 5 houses at Waverley-rd., Hollins estate, for H. Marshland.

Morpeth.—R.D.C. received M.H. sanction to build 38 Airey houses at Pegswood at £48,924.

Newcastle.—Northern Food Products, Ltd., are to build a warehouse and garage in Hanningtон-st., Newcastle. Architect, C. Solomon, St. Mary's-pl., Newcastle.

Newcastle.—Office, meter house, pressure tank house, locomotive shed and weighbridge house are to be built at Wills Co.'s tobacco factory, Coast-rd., Newcastle. Plans by the company's architect, Bedminster, Bristol 3.

Newcastle.—Medical dept. is to be built at Newcastle Dispensary, New Bridge-st. Architects, Newcombe & Newcombe, Eldon-sq., Newcastle.

Newcastle.—Alterations and improvements are to be made to the Royal Oak Hotel, Walker-rd., Newcastle, for R. Deuchar & Co., Ltd. Architects, T. A. Page, Son & Hill, 75, King-st., South Shields.

Newcastle.—A residence in Bentinck-rd., Newcastle, is to be converted into a home for aged men. Plans by the City A., G. Kenyon, 18, Cloth Market, Newcastle.

Newcastle.—C. S. Hogg, Ltd., builders, 259, Two Ball Lonnen, Newcastle, are to build 14 houses in west end of city.

Newcastle-on-Tyne.—T. B. Pearson & Sons, Wincomlee-rd., Walker, are to build an engineering workshop. Plans by own staff.

Newcastle-on-Tyne.—Building of schools at Blakelaw, Montagu estate, and West-rd., in 1950, has been approved. Ministry also approved a reserve list of four schools and extensions to three others. Architect, G. Kenyon, Ed. Offices, Northumberland-rd., Newcastle.

North Riding.—Ed. Comm. to build school

BRITISH MADE.
GUARANTEED.
JACONITE
TILES
NON-SLIP
FLOOR, CILL AND COVE TILES
All Colours and Sizes
Factories at:
LONDON
BIRMINGHAM
MANCHESTER
BRIDGEND, GLAM.
FOR
HOSPITALS, SCHOOLS, CANTEENS
HOUSES, POWER STATIONS AND
ALL PUBLIC BUILDINGS
Immediate Deliveries
of standard sizes and colours
PIETRO
147, VICTORIA STREET,
LONDON, S.W.1
TEL. No.: VIC 3043 (4 LINES)

canteen at Eston, two at Catterick Camp schools and one at Lingdale. County A., County Hall, Northallerton.

Northumberland.—County A. (W. W. Tasker), County Hall, Newcastle-on-Tyne, has prepared plans for two police houses, office and garage at Berwick and four police houses, office and garage at Cramlington. Tenders are being obtained.

Overton.—R.D.C. propose 6 houses at New Hall-la., Bronington. R. L. Higgins, surveyor.

Poole.—T.C. are to build 150 "Easiform" houses on Wallisdown estate.

Rotherham.—B.C. approved plans for industrial building at Meadowhall-rd. for George Turton Platts & Co., Ltd.; welfare block, including canteen, locker rooms, showers and ambulance room at Grange Mill-la. for British Acheson Electrodes, Ltd.; rebuilding of "Hare and Hounds," Wellgate, for Trustees of R. J. Bentley; reinstatement and extensions of warehouse, garage and offices at Water-la. for Spillers, Ltd.; reconstruction of wharf on River Don for Spillers, Ltd., and maintenance workshops and central stores at Sheffield-rd. for Steel, Peech & Tozer.

Salford.—T.C. to purchase area at rear of town hall for 514 dwellings. City Engineer, W. A. Walker.

Salford.—Health centre proposed at Fairhope-ave. school; canteens at Cannon-st. and North Thomas-st. schools; hutted classrooms at St. Cyprians and West Liverpool-st. schools; 2 washhouses at Weedall-st. and Holland-st.; new police H.Q. at The Crescent. City E., W. A. Walker, G.M., M.I.C.E.

Saltburn.—North Riding Ed. Comp. propose primary school. County A., County Hall, Northallerton.

Shipley.—Plans submitted to T.C.: Extensions to Airedale Mills, Ives-st., for C. F. Taylor & Co.; 34 houses at Westfield-la. for H. Hirst & Sons; extension to factory at Manor-la. for Dean & Thompson.

South Shields.—T.C. proposes acquiring site of former Grand Electric Cinema, Ocean-rd., for future use as civic restaurant.

South Shields.—J. Wilks, 72, Sunderland-rd., South Shields, is architect for proposed additions to high school for E.C.—G. R. Smith & Partners, 3, Winchester-st., South Shields, have been instructed to proceed with preliminary plans for junior mixed school at Simonside, and Page, Son & Hill, 75, King-st., South Shields, are preparing plans for another school at Simonside for E.C.—Tenders are to be obtained from local firms by E.C. for kitchen-dining-rooms at St. Bede's R.C. School (£5,500) and St. Gregory's R.C. School (£5,500).—J. W. Hanson & Son, Northumberland-st., Newcastle, are architects for offices in Nile-st. for W. Duncan, Ltd.—Plans have been approved for furniture factory at Templetown for Mr Mackay and additions to metallic factory at Templetown for Ford & Co.

Standish.—U.D.C. seek loan of £25,520 for 18 houses.

Standish with Langtree.—U.D.C. propose 22 houses at Grove-la. site. Boro' E. & S., E. J. Brookes.

Stockton-on-Tees.—Approval has been given by M.O.S. to scheme for new factory for Rembrandt Dresses, Ltd. No contracts have yet been let. Architect, Clarence Solomon, 3, St. Mary's-pl., Newcastle-on-Tyne.

Stockton-on-Tees.—Lane, Fox & Co., Ltd., builders, Norton, are considering plan for about 90 houses in Brentford-gr., etc.

Stockton-on-Tees. — R. Cowan, architect, Gazette-bldgs., Bridge-rd., Stockton, has prepared plans for 24 houses in Reeth-rd. area.

Stretford.—B.C. propose civic restaurant at Trafford Park; to invite tenders for 44 flats at Firs Farm site; have allocated sites for police houses to C.C. at Christie-rd. (6), Bradfield-rd. (12), Clyne-st. (16), Park-rd. (10); approved plans for stores annexe at Westinghouse-rd. for I.C.I., Ltd.; fitters' shop at Westinghouse-rd. for Courtaulds, Ltd.; laboratory extensions at Textilose-rd. for Textilose, Ltd.; offices adjoining 575, Chester-rd. for Boydell & Co., Ltd.

Sunderland.—T.C. seeking consent to provide cold storage accommodation on Corporation Quay as part of £423,000 scheme for extending quay.

Sunderland.—T.C. received M.H. sanction to complete crematorium at Bishopwearmouth at £12,000. Boro' Eng., J. E. Lewis, 27, Fawcett-st., Sunderland.

Tynemouth.—Sketch plans to be prepared by Boro' E., 19, Howard-st., North Shields, for a home at Marden for 35 old people. Sites to be earmarked on other estates for similar buildings.

Urmston.—U.D.C. to consider complete layout for Woodsend estate and additional blocks of flats; to consult with other councils for a joint crematorium; 10 houses proposed at Carlton-rd. for W. Whittaker & Co., Ltd.

Warrington.—B.C. approved plans for a rod and bar mill at Bewsey-rd. for Lancs Steel Corporation, Ltd.

Wednesbury.—T.C. propose 84 houses and 14 bungalows. Plans by A. Booth, Boro' E.

Westmorland.—R.D.C. propose 6 houses at Drovers Way estate, Burton; received M.O.H. sanction to borrow £73,433 for 52 houses on various sites.

Wirksworth.—U.D.C. propose 26 houses at Middleton.

Worksop.—R.D.C. propose 8 houses at Carburton.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Aberdeen.—Six houses at Gordon Military Barracks: *R. & J. Reid, Albury-rd., Aberdeen, W.

Adwick-le-Street.—Houses for U.D.C. 30 at Woodlands, *W. Firth, Ltd., Doncaster, £34,688; 22 at Carcroft, *C. F. Ward, Carcroft, £27,974 (subject to M.H. approval).

Aspull.—18 houses at Hilton Farm site, for U.D.C.: *Direct Labour, £24,200.

Belper.—28 pairs of houses and six bungalows at Duffield site, for R.D.C.: *Vic Hallam, Ltd., Langley Mill, Notts.

Beverley.—10 houses at Brantingham, for R.D.C. (G. Palfreyman, E. & S., 36, Market-pl: *P. R. Gillatt, South Cave.

Billingham-on-Tees.—80 houses at Roseberry No. 2 site, for U.D.C. Architects, Kitching & Co., 21, Albert-rd., Middlesbrough: *Stephen Coates, Ltd., Langbaurgh-pl., North Ormesby, Middlesbrough, £103,718.

Billingham-on-Tees.—Painting 222 houses at Chilton estate, for U.D.C.: *W. T. Pickering & Son, Ltd., Bowesfield-la., Stockton-on-Tees, £1,665.

***Brighton.**—108 houses in 3 sections at Lower Bevendean estate, for C.B. B.E. & S., 26-30, King's-rd., Brighton. Section 4C, 32 houses, *T. J. Braybon & Son, Ltd., 169, North-st., Brighton, £43,458; Section 4E, 50 houses, *Saunders (Contractors), Ltd., London-rd., Burgess Hill, £71,133; Section 4F, 26 houses, *T. J. Braybon & Son, Ltd., 169, North-st., Brighton, £35,137.

Bromsgrove.—26 houses at Orchard estate, Sidemoor, for U.D.C.: *S. J. Smith & Co. (Bidford), Ltd., Smith-rd., Wednesbury, £34,928.

Caterham and Warlingham.—Houses and flats at Mill House estate, for U.D.C.: *R. J Clarke & Co. (Builders), Ltd., £12,615 (10); *O. R. Croudace, Ltd., £10,123 (eight flats and two houses); *B. Clifford, Ltd., £11,312 (four flats and six houses).

***Chesterfield.**—44 houses at various sites, for R.D.C. J. B. Wikeley, E. & S., Rural Council House, Saltergate. *J. A. Belfitt & Co., Ltd., Norton, Sheffield, 8, £8,694; *W. Plowman & Co., Ltd., Huthwaite, Notts, £6,192; *Reeves Charlesworth, Ltd., 27, Wilkinson-st., Sheffield, £35,610; *Ridgeway & Sons, Ltd., Rawmarsh, Rotherham, £18,000.

Chesterfield.—20 houses at Birk Hill, Eckington, for R.D.C. J. B. Wikeley, M.Eng., A.M.I.C.E., Rural Council House, Saltergate. *Parkin (Rotherham), Ltd., 247, East Bawtry-rd., Rotherham, £22,240.

Coatbridge.—New classrooms and additions to Our Lady's Catholic High School. William Watt, architect, Albert-st., Motherwell-Wishaw: Brick and general contracting works, *Lanarkshire County Direct Labour Dept.

Dagenham.—Works for T.C. 62 houses at Heath Park estate: *Direct Labour, £85,345; 148 flats at Heath Park estate: *Thomas Bates & Sons, Ltd., £243,408; six flats under Apprentice Master Scheme, at Rectory-rd.: *Richard Costain, Ltd. (Apprentice Master).

Darlington.—New primary school and nursery at The Broadway, Eastbourne, for C.B. E. A. Tornbohm (A.), A.M.T.P.I., Boro' A.: *Edgar Lawson, Ltd., 10, Woodland-rd., Darlington.

Edinburgh.—22 houses at Bedford Military Barracks, from plans by the Scottish Military Headquarters Command Chief Engineer, The Castle, Edinburgh: *James Miller & Partners, Ltd., George-st., Edinburgh, C.1.

Jarrow.—Erection of locomotive shed at Bede Trading Estate, for North-Eastern Trading Estates, Ltd. Consulting Engineers, Waterhouse & Rounthwaite, 165, Westmorland-rd., Newcastle-on-Tyne: *H. E. Pitt, Ltd., Millfield, Sunderland.

Kerrier.—19 houses at 3 sites, for R.D.C. C. R. Corfield & Son, Falmouth, architects. Quantities by J. H. Snellgrove, A.R.I.C.S., Helston: Six at Mullion, including site works, *J. M. Tiddy & Son, The Lizard, £8,842; five at Coverack, including site works, *Noye Bros., Helston, £8,570; eight at Carleen, including site works, *Noye Bros., Helston, £12,714 (subject to M.H. approval).

Lancs.—Second phase of Ashton & Lea Junior & Infants' School, for C.C. Architects, Burnet, Tait & Partners, London: *Wm. Eaves & Co., Ltd., Blackpool, £65,853; New shippon and dairy at Winmarleigh Hall Agricultural Institute: *R. L. Dilworth, Ltd., Lancaster, £4,136.

Liverpool.—Works for T.C. Eight aged persons' bungalows and 28 flats at Woodfall Heath estate: *Hale & Williams, Ltd., 1, Heather-st., Liverpool 4, £52,868; 330 houses and flats at Mather-av., Allerton: *R. Costain & Sons (Liverpool), Ltd., Barlows-la., Fazakerley, Liverpool, £491,000.

L.C.C.—Contracts exceeding £2,500 in value placed by L.C.C. during period ended August 6. Kitchen and dining unit at Raine's Foundation School, Mile End. Kind & Co. (Builders), Ltd., London, E.11; cleaning and painting at Fulham Palace-rd. school, C. & T. Painters, Ltd., London, N.W.10.

¶London (Admiralty). — *Baverstock Camp, Dinton, Wilts*: Provision of latrine block, C. P. Unwin & Sons, Ltd., 33, St. Peter's-st., Tiverton, Devon.

¶London (Air Ministry).—New contracts to value of £500 or over for week ended August 6. *Constructional work*: Ralph Pennington & Co., St. Helens, Lancs. *Building work*: Fred. Pearson & Co., Ltd., Doncaster, Yorks; James Longley & Co., Ltd., Crawley, Sussex.

¶London (M.O.W.).—Contracts placed by M.O.W. for week ended July 30:—*London*: Royal Naval College, Greenwich, internal painting, Sykes & Son, Ltd., 8, Essex-st., W.C.2; Onslow-gdns., S.W.7, external repairs and painting, W. & M. Negus, Ltd., Station Works, King James-st., Southwark; King James-st. Garage, alterations and decorations, Grant & Partners, Ltd., 1, Manor Park-parade, Lewisham, S.E. *Aberdeenshire*: Aberdeen, Remploy factory, Jas. Leith, Junr., 127, Causewayend, Aberdeen. *Durham*: Post Office, Waterloo Vale, South Shields, temporary sorting office, John Jackson & Sons, 72, Corporation-st., Newcastle. *Essex*: Chelmsford, Telephone Exchange, erection, Hammond & Miles, Ltd., Scrafton-rd. Works, Ilford-la., Ilford; Head Post Office, Chelmsford, extensions to sorting office, E. C. P. Brand, Mount House Works, Braintree. *Herts*: Sawbridgeworth, Telephone Exchange, erection, J. L. Glasscock & Sons, Causeway, Bishop's Stortford. *Lancs*: Anfield Telephone Exchange, 3747 Liverpool, erection, Morrison & Sons, Ltd., Wavertree, Liverpool. *Leics*: Station Sorting Office, Campbell-st., Leicester, internal decorations and cleaning, William Dixey & Son, 23, Kimberley-rd., Leicester. *Middx*: Government Training Centre, Enfield, completion of lavatory block and internal finishing, Percy Bilton, Ltd., "Bilton House," 113, Park-st., W.1. *Northumberland*: Lowick School, additional classrooms, Thomas Gardiner, Well Close-sq., Berwick; Newburn Manor School, additional classrooms, Thomas Armstrong, Ltd., 16, Robson-st., Newcastle. *Pembrokeshire*: Balero Camp, Park-rd., Ruthven, alterations and additions to Ministry of Food and Ministry of Labour, John Hughes (Construction), Ltd., Halt-st., Wrexham; Camrose South Council School, temporary school bldgs., Phelps & Owens, 11, Nantucket-ave., Milford Haven. *Warwickshire*: C/E School, Southam, kitchen and dining-room, Bragg Bros., Church Hill-rd., Solihull. *Worcs*: R.E.D.E., Pale Manor, Malvern, internal and external painting, C. Green & Porter, Hagley-rd., Stourbridge. *Yorks*: Kirby Moorside Council School, additional classrooms, A. W. Sinclair & Sons, Ltd., Commercial-st., Scarborough; Elland

WATerloo 6314 (6 lines)

AYGEE LTD.

PATENT ROOF GLAZING in Aluminium Alloy and Lead Clothed Bars

A product of England's Largest Glazing Contractors

100 WESTMINSTER BRIDGE RD., LONDON, S.E.1

Southend School, temporary school bldgs., George H. Haig & Co., 115, Long-la., Dalton.

¶**London (War Dept.).**—Works contracts placed by War Dept. for week ended July 30:—

Merionethshire: Painting work, **Arthur Hogg**, Ltd., Manchester. *Durham*: Building work, Samuel Owst & Son, Hull. *Yorks*: Building work, C. Chapleo & Sons, Leyburn. *Hants*: Building work, Warings (Contractors), Ltd., Portsmouth. *Wilts*: Painting work, Clark & Fenn, Ltd., London, S.W.4. *Devon*: Painting work, F. Labbett & Sons, Nottingham. *Wilts*: Road work, Wainwright Paving & Contracting Co., Ltd., Portsmouth. *Oxon*: Ventilating work, Davidson & Co., Ltd., London, S.W.1. *Hants*: Miscellaneous work, H. F. Bull & Sons, St. Neots. *Herts*: Miscellaneous work, Bicker Seeley & Co., Ltd., Royston.

Monmouthshire.—Pithead baths at Wyllie, for National Miners' Welfare Joint Council: *A. Roberts & Co., Ltd., London.

Newark.—66 houses with roads and sewers at Balderton, for R.D.C.: *Ernest Coleman, Ltd., £92,120.

Northumberland.—Four houses at Divisional Police Headquarters, Morpeth, for C.C. W. W. Tasker (F.), County A., County Hall, Newcastle-on-Tyne. Quantities by R. H. Duns, F.R.I.C.S.: *J. Wilson, Ltd., Oldgate, Morpeth.

Rothbury.—Canteen at Rothbury School: *R. Carse & Sons, 61, High-st., Amble, Northumberland.

Rotherham.—48 houses at Broom Valley, for T.C.: *Beeden, Ltd, Park-la., Thrybergh, Rotherham, £61,750.

Stirlingshire.—Two-storey building at Falkirk, for R. & J. Main & Co., Ltd., ironfounders and household suppliers: *A. Maxwell & Co., Falkirk.

Stockport.—56 houses and flats at Broomfield-dr. site, for T.C.: *Hugh Owen & Son, Ltd., Poyton, £58,637.

Stretford.—Houses and flats at Moss Park site, for T.C.: *Ernest Jackson & Sons, Ltd., £20,053 (16 houses); *G. Moss & Sons, Ltd., £57,580 (46 houses); *Hampson & Kemp, Ltd., £42,633 (34 houses); *G. Moss & Sons, Ltd., £42,450 (36 flats).

Tynemouth.—Eight houses at Lynn-rd., for T.C. B.E., 19, Howard-st., North Shields: *T. H. Rigby, Park-side, Tynemouth, £9,792 (in place of previous tenderer).

Tynemouth.—Potato crisp factory, offices and store at junction of Bird-st. and Northumberland-st., North Shields, for Mrs. E. Olive: *W. A. Cruickshanks, 105, Closefield-gr., Whitley Bay.

West Bromwich.—64 houses at Hateley Heath estate, for B.C.: *W. Kendrick & Sons, Ltd., Tasker-st., Walsall, £70,751.

West Hartlepool.—Junior Department at Seaton-la. County Primary School, for E.C. S. M. Richmond, Boro' A., Municipal-bldgs., West Hartlepool: *Leslie & Co., Woodlands-rd., Darlington.

Whitley Bay.—Rebuilding of war-damaged Gregg Café. Architect, G. E. Charlewood, 14, Neville-st., Newcastle-on-Tyne: *R. Alder Gofton & Sons, Front-st., Monkseaton.

Wirksworth.—32 houses at Derby-rd. site, for U.D.C.: *George Shipman & Sons, Riddings, Derbys, £33,546.

UNITE FOR STRENGTH

10,000 BUILDERS

are now members of the

FEDERATION OF MASTER BUILDERS

The Largest Truly Representative Organisation in the Industry

ENROL NOW

SUBSCRIPTION £4.4.0 p.a.

LONDON REGION—37 AREAS

And over 80 PROVINCIAL BRANCHES

'Phone or write:

Secretary:

26, Gt. Ormond St., Holborn, W.C.1

Tel.: CHAncery 7583 (4 lines)

Telegrams: "EFEMBE, Holb, London"

The address of your Branch Secretary will be forwarded.

STEEL-CRETE

SUPER-HARD DUSTLESS SURFACES

HAVE BANISHED ALL TROUBLES WITH OLD OR NEW

FLOORS

Inspect one that has withstood HEAVY TRUCKING FOR 25 YEARS and consult

STEEL-CRETE LTD.

35, Avenue Chambers, Southampton Row, London, W.C.1. *Tel.: HOLborn 8011*

THE ESSEX STEEL SCAFFOLDING CO.

SMART'S LANE, LOUGHTON, ESSEX

TEL.: LOUGHTON 295

SALES HIRE

ERECTION CRADLES

WOOD BLOCK FLOORS

STEVENS & ADAMS LTD.

Victoria Works, Point Pleasant, Wandsworth, S.W.18

BROAD-ACHESON

LOADBEARING BLOCKS

for Partition & Cavity Walls

BROAD & CO. LTD. 4 SOUTH WHARF, PADDINGTON, W.2. PADdington 9091

Boyle's Patent "Air Pump" Ventilator

OVER TWO MILLION IN USE

ROBERT BOYLE & SON

VENTILATING ENGINEERS

98, HERRIES STREET, KILBURN LANE, W.10

Tel.: LADbroke 2879

W & M NEGUS LTD

WATerloo 5474

"Three Generations of Building"

GALBRAITH BROTHERS LIMITED

BUILDERS CONTRACTORS & ENGINEERS

of

CAMBERWELL

HEAD OFFICE:

34 & 35, HIGH HOLBORN, LONDON, W.C.1

Tel. : CHAncery 7901-3